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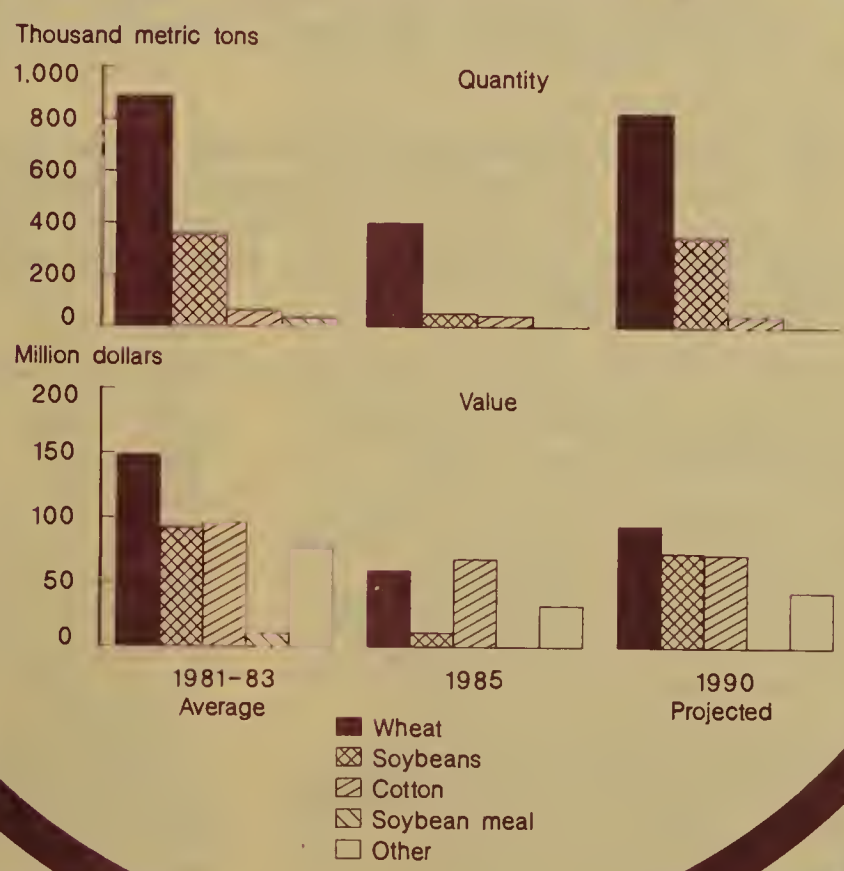
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Southeast Asia

Situation and Outlook Report

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U.S. Agricultural Exports to Indonesia



U.S. farm exports to Indonesia likely to rise sharply from 1985 levels.

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Situation Coordinator
J. Albert Evans (202) 786-1614

Principal Contributors
J. Albert Evans
Leslie E. Ross
Sara J. Schwartz

Electronic Word Processing
Rhodia D. Ewell

Acknowledgments

Peter Kurz, Agricultural Trade Officer, and staff, Singapore
Verle E. Lanier, Agricultural Counselor, and staff, Manila
Robert M. McConnell, Agricultural Counselor, and staff, Jakarta
Thomas M. Slayton, Agricultural Attache, and staff, Bangkok
Francis J. Tarrant, Agricultural Attache, and staff, Kuala Lumpur

International Economics Division, Economic Research Service
U.S. Department of Agriculture, Washington, D.C. 20005-4788

Note: Southeast Asia consists of Brunei, Burma, Indonesia, Cambodia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Agricultural production is reported in metric tons; dollars are U.S., unless otherwise specified; and rice data are for milled rice unless otherwise specified.

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SUMMARY

Southeast Asian economies generally performed poorly in 1985, contrasting sharply with 1984 results. Negative growth of 4 percent in the Philippines represented a slight improvement from 1984. Singapore's economy contracted 1.7 percent, after 8-percent growth in 1984 and 20 years of substantial growth. Other countries generally registered gains of 2-4 percent, well below 1984 rates. Regional growth was adversely affected by slower growth in the U.S. economy and world trade in general. Major Southeast Asian exports such as rubber, palm oil, tin, and petroleum brought sharply lower prices last year, and layoffs, wage cuts, and business failures were much more frequent.

Economic growth in 1986 is highly uncertain and constrained by continued low prices for most major commodities. Indonesia, and to a lesser extent Malaysia, have been hard hit by the 50-percent decline in petroleum export prices since late 1985. Their growth rates may be less than 2 percent in 1986. Singapore's economy may contract 1-2 percent, while little or no growth is likely in the Philippines. The Thai economic outlook is slightly better, with real growth projected around 4 percent. Although some regional currencies float in relation to the U.S. dollar, the sharp weakening of the dollar probably will adversely affect the region's total exports.

Southeast Asia's agricultural output advanced 3 percent from 1984 to a record high, mainly on gains in rice, corn, soybeans, copra, and palm oil. Per capita food production rose 1 percent to a record 120 percent of the 1976-78 average. Agricultural output may climb another 3-4 percent in 1986, due mainly to increased rice, corn, palm oil, copra, and sugarcane production.

The region is a major net exporter of natural rubber, cocoa beans, coffee, tea, spices, rice, and palm and coconut oil. Thai rice is especially preferred by regional importers such as Malaysia and Singapore, and competes with U.S. rice in world markets. Malaysia and Indonesia are the world's top palm oil producers and exporters, and the Philippines is the leading coconut oil and meal supplier. The region's palm and coconut oil exports compete with U.S. soybean oil for major markets such as India and Pakistan.

Despite current low export prices, Malaysian and Indonesian palm oil output could expand at least 75 percent by 1995.

After averaging \$1.2 billion a year during the past 5 years, U.S. agricultural exports to Southeast Asia declined 31 percent in fiscal 1985 to \$842 million, the lowest since fiscal 1979. The decline was due to increased competition, lower prices for nearly all U.S. commodities, and generally smaller import volumes caused by increased self-sufficiency and slower economic growth. U. S. exports of wheat, feed grains, soybean meal, soybeans, vegetable oil, and cotton all declined; only tobacco and rice fared better.

In fiscal 1986, U.S. agricultural exports to the region are projected to decrease 16 percent to \$706 million. Sharply reduced cotton exports are expected to account for two-thirds of the decline, with the remainder due to smaller rice and feed grain shipments. Wheat and wheat products are likely to comprise 27 percent of sales, followed by tobacco (18 percent), oilseeds and products (14 percent) and cotton (10 percent). The downtrend in the U.S. share of Southeast Asia's shrinking farm import market is anticipated to plateau in fiscal 1986 with the United States again supplying 11 percent of the region's \$6.4 billion in agricultural imports. Lower prices for many commodities are also deflating the total value of the region's imports.

A special article on Indonesia's export market potential indicates that severe revenue shortfalls caused by sharply lower petroleum export prices will dampen general economic and agricultural growth and development in the late 1980's. Nevertheless, further growth in population and real per capita income will increase overall demand for food and fiber. Indonesia's low per capita income and high incidence of poverty will result in a continued high relative demand for bulk agricultural imports.

Wheat, soybeans, and cotton will provide an estimated 84 percent of the total value of U.S. agricultural exports to Indonesia in 1990. This assumes the U.S. Food Security Act of 1985 substantially enhances the price competitiveness of these items. During

1986-90, assumed export unit values will move sharply below 1984 and 1985 levels as exporters compete to reduce excess stocks and retain or expand market shares in Indonesia.

Projected 1990 export volume and value of U.S. wheat and soybeans to Indonesia will climb sharply from 1985 and 1986 lows. However, wheat export value may remain about 40 percent below the 1983 record, and receipts from soybean exports may be 20-30 percent below their 1982 high. Similarly, cotton export volume could advance about one-third, but the value may remain about 40 percent below the 1984 record. If receipts for these commodities are deflated to eliminate price inflation, a much more discouraging picture emerges.

A special article on Thailand's livestock sector reports continued development in the poultry and hog industries in response to domestic and export demand. The poultry

industry now produces 435,000 tons of meat a year and Thailand has become the world's sixth largest poultry exporter. The hog sector is modernizing rapidly, and Thailand could begin exporting processed pork products within the next 5 years.

In 1986, Thailand will produce enough feed grain to support its burgeoning livestock industry and remain one of the world's leading grain exporters, shipping an estimated 3.5 million tons of corn, 335,000 tons of sorghum, and 3.9 million tons of rice. If export markets expand and farm prices rise, Thailand's coarse grain production could double within 5 years with the use of hybrid seeds, fertilizer, and herbicides. Therefore, livestock industry growth should not reduce the export availability of feed grains. However, protein meal production has not kept pace with the livestock sector, and Thailand must rely on imports to supplement domestic protein meal supplies.

REGIONAL OVERVIEW

Growth Expected To Remain Sluggish in 1986

Southeast Asian economies generally performed poorly in 1985, contrasting sharply with 1984 results (tables 1 and 2). Economic contraction of 4 percent in the Philippines was slightly less than in 1984. Singapore's economy reversed abruptly, contracting nearly 2 percent, after 8-percent growth in 1984 and 20 years of steady growth. Other countries generally registered gains of 2-4 percent, but well below rates of 1984. Regional growth was adversely affected by slower growth of the U.S. economy, and world trade in general. Sharply lower prices were received for important regional exports such as rubber, palm oil, tin, and petroleum. Layoffs, wage cuts, and business failures were much more frequent in 1985.

Regional economic growth in 1986 is highly uncertain and constrained by continued low prices for most major export commodities. Indonesia, and to a lesser extent Malaysia, have been hard-hit by the 50-percent decline in petroleum export prices

since late 1985. Their growth rates may be less than 2 percent in 1986. The Singaporean economy may contract a further 1-2 percent while little or no growth seems likely in the Philippines. The Thai economic outlook is slightly better and real growth of 4 percent may be realized. Although some regional currencies float in relation to the U.S. dollar, the sharp weakening of the dollar will probably have a negative effect on aggregate regional exports. In Indonesia, the sharp decline in petroleum export prices may cost the treasury \$4-5 billion just in 1986, and dampen economic and agricultural development. Presently there is increasing monetary turbulence and speculation against the Indonesian rupiah because of growing concern about probable shortfalls of rupiah budget revenues, and worries about foreign exchange outflows through 1986. Philippines' priorities that have already emerged include privatization of government corporations and commercial banks, dismantling of monopolies, developing agriculture to strengthen the domestic economy, stabilizing the foreign exchange rate and reserves, lowering interest rates, and keeping inflation below 10 percent. As in the previous administration, agriculture is viewed as a key to the Philippines' recovery.

Table 1--Southeast Asia: Merchandise exports and imports, 1983-85

Country	Exports 1/			Imports 2/			Trade balance 3/		
	1983	1984	1985	1983	1984	1985	1983	1984	1985
Million dollars									
Burma	375	364	340	801	655	693	-426	-291	-353
Indonesia	18,689	20,754	19,200	19,853	17,084	15,200	-1,164	3,670	4,000
Laos	41	45	48	149	154	163	-108	-109	-115
Malaysia	13,722	16,407	15,800	14,576	14,803	14,700	-854	1,604	1,100
Philippines	5,005	5,391	4,628	7,977	6,586	5,545	-2,972	-1,195	-917
Singapore	20,284	22,344	22,050	27,748	28,257	27,900	-7,464	-5,913	-5,850
Thailand	6,308	7,338	7,125	10,187	10,261	9,260	-3,879	-2,923	-2,135
Vietnam	702	763	870	1,620	1,828	1,950	-918	-1,065	-1,080

1/ Net of shipping costs (free on board or f.o.b. basis). 2/ Includes shipping and insurance costs (cost, insurance, and freight or c.i.f. basis). 3/ Difference between value of exports and imports, both on f.o.b. basis. 4/ Burmese imports derived from partner country exports and converted to c.i.f. basis.

Table 2--Southeast Asia: Selected macroeconomic indicators, 1985

Country	GDP 1/	GDP per person 1/	Real GDP 1/ growth	Midyear population	Population growth	Inflation rate	International reserves 2/
	Million dollars	Dollars	Percent	Million	Percent		Million dollars
Burma	6,500	179	6.9	36.4	2.2	5	50
Cambodia	NA	NA	NA	6.2	1.9	NA	NA
Indonesia	81,950	501	1.5	163.8	2.2	4.8	5,880
Laos	1,800	500	6.0	3.6	2.9	114	12
Malaysia	33,100	2,111	2.8	15.7	2.7	.5	5,002
Philippines	32,650	594	-4.0	55.0	2.5	23	1,100
Singapore	17,847	6,864	-1.7	2.6	1.2	.7	12,800
Thailand	37,240	726	4.1	51.3	1.9	2.4	2,708
Vietnam	16,875	283	3.6	59.7	2.4	50	16

NA = Not available.

1/ Converted to dollars at official exchange rates. This may overstate actual dollar value of GDP in countries with overvalued exchange rates, notably Burma, Laos, and Vietnam. 2/ Includes reserve holdings of gold, valued at \$35/ounce.

SOURCES: International Financial Statistics, Project LINK, USDA data and estimates.

Agricultural Trade Important to Regional Development

Southeast Asia is a major net exporter of natural rubber, cocoa beans, coffee, tea, spices, rice, and palm and coconut oil. Thai rice is especially preferred by regional importers such as Malaysia and Singapore, and is also marketed worldwide in competition with U.S. rice (table 3). The Philippines is the world's leading coconut oil and meal supplier, as well as a major pineapple and banana exporter. Malaysia and Indonesia are first and

second, respectively, in producing and exporting palm oil and rubber. These regional palm and coconut oil exports compete with U.S. soybean oil worldwide including major markets such as India and Pakistan. Despite currently low export prices, palm oil output in Malaysia and Indonesia could expand 50 percent or more by 1995.

Wheat is a major import of Southeast Asia, where the climate favors domestic production only in Burma. Although rice is the major cereal staple, wheat is an important

Table 3—Southeast Asia: Production, trade, and stocks of selected agricultural commodities, selected years

Commodity 1/	Production	Imports 2/	Exports 2/	Ending stocks
1,000 tons				
Rice (milled)				
1983/84	63,441	2,346	5,460	4,006
1984/85	65,630	1,914	4,498	5,311
1985/86 est.	67,163	1,535	5,270	5,750
Wheat				
1983/84	213	4,075	66	525
1984/85	206	3,895	75	601
1985/86 est.	210	3,700	65	492
Corn				
1983/84	13,200	1,625	2,934	737
1984/85	13,896	1,966	3,267	796
1985/86 est.	14,062	1,650	3,435	780
Cotton 3/				
1983/84	407	1,679	72	399
1984/85	382	1,688	69	503
1985/86 est.	437	1,600	85	510
Vegetable oils				
1983/84	6,824	1,088	5,009	621
1984/85	8,102	1,349	6,284	875
1985/86 est.	9,501	1,341	7,776	1,225
Sugar 4/				
1983/84	6,786	1,200	2,403	1,763 5/
1984/85	6,428	735	3,197	1,492 5/
1985/86 est.	6,094	740	2,535	1,462 5/

1/ Production and trade data shown for crop year as follows: Rice—January/December except July/June for Philippines; wheat—July/June; corn—September/August; cotton—August/July; vegetable oils—October/September; and sugar—September/August. 2/ Includes trade between countries in Southeast Asia. 3/ Cotton data in thousand 480-pound bales. 4/ Raw sugar basis. 5/ Excludes stocks for Brunei, Burma, Cambodia, Laos, and Vietnam.

Table 4—Southeast Asia: Currencies and 1985 exchange rates

Country	Currency and abbreviation	Exchange rate with US\$	
		Average	Yearend
Burma	Kyat (K)	8.47	7.84
Cambodia	Riel (KR)	NA	30
Indonesia	Rupiah (Rp)	1,111	1,125
Laos	New Kip (NK)	NA	35
Malaysia	Ringgit (\$M)	2.48	2.43
Philippines	Peso (P)	18.61	19.03
Singapore	Singapore \$ (\$S)	2.20	2.11
Thailand	Baht (B)	27.16	26.65
Vietnam	Dong 1/	NA	15

NA = Not available.

1/ On September 14, 1985, a new dong equivalent to 10 old dong was issued.

SOURCES: International Financial Statistics, USDA data.

grain supplement and a relatively lower-cost source of protein. However, Indonesia's recently achieved domestic rice sufficiency and the financial inability of the Philippines to

import wheat at former high levels have curbed regional wheat demand in the near term.

Southeast Asia is a net importer of raw cotton for domestic textile industries in Indonesia, Thailand, Malaysia, and the Philippines, which actively seek growing export markets in industrialized areas such as the United States, Japan, and Europe. The textile exporting countries are especially concerned about import quotas in markets such as the United States that limit industry sales, growth, and employment. They have threatened to further reduce imports of U.S. raw cotton if protectionist sentiment prevails.

Record Agricultural Output

Southeast Asian agricultural production rose 3 percent in 1985 to a record high mainly on gains in rice, corn, soybeans, copra, and palm oil. Per capita food production was also up 1 percent from 1984 to a record 120 percent of the 1976–78 average. Agricultural output in 1986 may increase 3–4 percent to another record high, again owing chiefly to gains in production of rice, corn, palm oil, palm kernels, copra, and sugarcane. [J. Albert Evans (202) 786–1614]

U.S. AGRICULTURAL TRADE WITH SOUTHEAST ASIA

Downtrend in U.S. Farm Exports To Region Continues

U.S. agricultural exports to Southeast Asia declined 31 percent in fiscal 1985 to \$842 million (table 5), the lowest level since fiscal 1979 and following 5 years of shipments valued at \$1.2 billion. The decline was due to increased competition, lower prices for nearly all U.S. commodities, and generally smaller regional import volumes caused by increased self-sufficiency and slower economic growth. Compared with fiscal 1984, the United States shipped less wheat, feed grains, soybean meal, soybeans, vegetable oil, and cotton. Only U.S. tobacco and rice fared better in fiscal 1985.

A 16-percent decline to \$706 million is forecast for fiscal 1986. The sharp decline in U.S. cotton exports is expected to account for two-thirds of the projected \$136-million drop in export sales, with the remainder due to

Table 5—Major U.S. agricultural exports to Southeast Asia, by quantity and value, fiscal 1984-1986

Commodity	Value			Volume		
	1984	1985	1986 F	1984	1985	1986 F
— Million dollars — — 1,000 tons —						
Animal & animal prod.	76	65	60	NA	NA	NA
Beef & veal 1/	9	7	8	1	1	1
Pork 1/	1	1	1	—	—	—
Poultry 1/	33	29	28	26	28	26
Tallow—inedible	3	3	2	5	6	5
Nonfat dry milk	9	7	8	15	11	13
Cattle hides (MNO)	1	1	1	23	23	23
Other animal prod.	20	17	12	NA	NA	NA
Grains & feeds	435	274	211	NA	NA	NA
Wheat & products	342	202	192	2,055	1,257	1,255
Rice	29	35	6	86	134	21
Feed grains	39	17	—	257	66	—
Feeds & fodders	11	12	12	NA	NA	NA
Other	12	8	1	NA	NA	NA
Fruits & prep.	56	51	52	NA	NA	NA
Nuts & prep.	6	5	6	NA	NA	NA
Vegetables & prep.	22	20	20	NA	NA	NA
Oilseeds & prod.	215	86	97	NA	NA	NA
Oilcake & meal	88	41	57	392	217	245
Soybeans	93	24	25	309	103	120
Vegetable oils	32	21	15	36	24	21
Tobacco, unmanu.	108	121	131	16	18	19
Cotton, excl. linters	235	159	69	145	102	47
Other	64	61	61	NA	NA	NA
TOTAL	1,217	842	706	NA	NA	NA

1/ Fresh, chilled, frozen.— = None or less than 500 tons.
NA = Not applicable. MNO = 1,000 number. F = Forecast.

SOURCES: Bureau of the Census, U.S. Department of Commerce;
USDA estimates.

lower rice and feed grain exports. Lower prices for many commodities are also deflating the total value of the region's imports. Of projected sales, wheat and products comprise 27 percent, followed by tobacco (18 percent), oilseeds and products (14 percent), and cotton (10 percent). The downtrend in the U.S. share of Southeast Asia's shrinking farm import market is anticipated to plateau in fiscal 1986, with the United States again providing 11 percent of the region's \$6.4-billion agricultural imports (table 6).

Commodity Highlights

- **Wheat and products**—Southeast Asia purchased roughly 3.8 million tons of wheat and products during fiscal 1985, 40 percent of which was supplied by the United States. Total imports by the region and the U.S. share dropped from the year before, mainly because of declining Indonesian consumption. In

Table 6—U.S. agricultural exports to Southeast Asia by country, fiscal 1981-86

Country	1981	1982	1983	1984	1985	1986 F
Million dollars						
Brunei	—	—	2	2	2	2
Indonesia	382	432	410	438	204	155
Malaysia	106	134	131	142	87	89
Philippines	338	320	380	300	284	240
Singapore	170	163	142	160	119	110
Thailand	184	155	139	172	134	109
Other 1/	13	3	2	1	1	—
Total	1,193	1,207	1,206	1,217	842	706
U.S. share of total agricultural imports						
Percent						
Brunei	NA	NA	NA	NA	NA	NA
Indonesia	18	27	29	40	23	18
Malaysia	11	14	11	9	6	6
Philippines	51	40	45	54	47	45
Singapore	9	9	8	6	4	4
Thailand	29	28	23	22	17	17
Other 1/	NA	NA	NA	NA	NA	NA
Total	16	18	17	15	11	11

1/ Burma, Cambodia, Laos, and Vietnam. NA = Not available. F = Forecast.

SOURCES: Bureau of Census, U.S. Department of Commerce; various country sources; USDA estimates.

recent years, wheat consumption has been replaced by abundant rice, corn and other staple food harvests, which have complemented Indonesia's conservative import policies caused by falling oil revenues.

During fiscal 1986, the Southeast Asian wheat market will be characterized by lack of growth and a further erosion of the U.S. share to nearly 30 percent. Even with reduced U.S. prices, competition from Australia, Canada, and Argentina, particularly in Malaysia and Indonesia, is forecast to limit U.S. exports to about 1.25 million tons valued at \$192 million. European flour sales to the Philippines were countered by offers of roughly 250,000 tons of wheat and products under the U.S. Export Enhancement Program—the first program initiated in Asia.

- **Other grain products**—During fiscal 1985, Southeast Asian coarse grain imports

(mostly corn) were up 367,000 tons to about 2.3 million tons (including intraregional trade). The increase is attributable to robust growth in Singapore (up 251,000 tons) and Malaysia (up 66,000 tons). A downturn is forecast in fiscal 1986, as Malaysian imports flatten at 1.2 million tons, Philippine corn self-sufficiency goals eliminate imports, and a drop in Singapore's demand push regional imports back to the fiscal 1983 level. Thailand will again be virtually the sole supplier, with no U.S. exports anticipated.

Including intraregional trade, rice imports totaled 1.6 million tons in 1985, about 40,000 below 1984. Thailand remained the top supplier, with U.S. sales (less than 10 percent of the total) dependent upon P.L. 480 credit financing. During fiscal 1986, regional imports are forecast to fall to about 1.2 million tons, with U.S. rice exports to the region not expected to exceed the 21,000 tons shipped to the Philippines earlier this fiscal year.

- **Oilseeds and products**--The region's imports of this commodity group have slowed dramatically in recent years, reflecting the 2-1/2-year economic crisis in the Philippines, self-sufficiency plans in both Thailand and Indonesia, and slower growth in Indonesian consumption. Competition from China and Brazil clipped U.S. sales in fiscal 1985, with U.S. soybean shipments down 45 percent to 217,000 tons, soybean exports down two-thirds to 103,000 tons, and vegetable oil exports down one-third to 24,000 tons.

The outlook for fiscal 1986 suggests that competitive U.S. prices have arrested the downtrend in U.S. soybean and meal exports. Compared with fiscal 1985, U.S. soybean exports are forecast to improve 16.5 percent to 120,000 tons and soybean exports may rise 13 percent to 245,000 tons. The U.S. share of the region's meal imports is forecast to rise to about 25 percent (from 19 percent), and its share of the bean market may advance to 16 percent (from 11 percent). U.S. vegetable oil exports may fall slightly, with only residual imports expected by this leading vegetable oil exporting region.

- **Cotton**--In fiscal 1985, the United States exported 102,000 tons of cotton to the region, down 30 percent in volume and 32 percent in value from fiscal 1984. Sluggish domestic demand and protected foreign markets for textiles has squeezed the region's cotton demand, with high U.S. prices strongly pushing the region toward alternative suppliers.

Total regional cotton imports in fiscal 1986 are expected to fall about 3 percent from fiscal 1985. The projected volume (47,000 tons) and value (\$69 million) of U.S. cotton exports to Southeast Asia represent further declines in U.S. sales across the region. Lower-priced supplies from nearby Asian neighbors, notably China, are expected to limit the U.S. share to roughly 15 percent, from 30 percent in fiscal 1985 and 40 percent in fiscal 1984.

- **Tobacco**--While Southeast Asia is a net exporter of unmanufactured tobacco, with exports roughly 25 percent greater than the 41,000 tons imported in 1985, the region depends on high quality imports for blending. U.S. tobacco exports in fiscal 1985 climbed about 12 percent to 18,000 tons valued at \$121 million. Even so, these levels were well below the fiscal 1982 records of 28,000 tons valued at \$176.5 million.

The projected growth in U.S. exports to 19,000 tons suggests modest improvement in market share to about 50 percent (up from 47 percent in 1985). Chinese supplies dominate the Singapore unmanufactured tobacco market and have made strong inroads in the Indonesian market. This trend is likely to continue in 1986, with increased U.S. purchases by Malaysia, the Philippines, and Thailand expected to be offsetting. [Leslie E. Ross (202) 786-1614]

BURMA

Reduced Export Earnings Inhibit Economy's Growth

Tumbling export prices for Burma's primary export commodities, soaring foreign borrowing and an unresponsive state marketing

system led to a 15-percent drop in export earnings in 1985, external debt estimated at \$2.6 to \$3 billion, and a debt service ratio approaching 60 percent of foreign exchange earnings. While official estimates cite an average GDP growth of 5.5 percent over the last 4 years and 6.9 percent in 1985, private estimates place performance at a much lower level. According to those estimates, little or no growth was achieved in 1985.

Export prices, particularly of rice, began a sharp decline in 1983, trimming export earnings and requiring Burma to draw down external reserves, reduce public investment, and cut back imports. While these measures improved the balance of payment situation, they also slowed economic growth. In 1984, public investment grew and imports rose 7 percent, but exports increased by only 2 percent. Tax revenues have been falling in recent years and expenditures by state enterprises have risen. As a result, the Government reduced borrowing on nonconcessional terms, curtailed public investment, and restricted imports in 1985.

Shortages of consumer goods and some basic commodities such as fuel and pharmaceuticals have contributed to a thriving black market that is reputed to be 30-50 percent the size of the official economy. While the official inflation rate is reported to be 5 percent, the real cost of living is privately estimated to have jumped 20 percent in 1985, when black market prices are considered.

The Fifth Four-Year Plan (April 1986 to March 1990) projects an average 4.5 percent annual GDP growth, about 1 percent below that which the Government claims it achieved during the Fourth Plan. The new plan calls for per capita output to rise 2.1 percent per year. No sectoral breakdowns have been provided. However, unless there is a dramatic reversal in the price trends of Burma's export commodities, the country will continue to face the prospect of diminishing economic growth and rising foreign debt.

Agricultural Expansion Continues

Despite Burma's fiscal and monetary problems, agricultural output continues to expand due to the country's rich land resources and the innovative Whole Township

Table 7—Burma: Production of selected commodities 1/

Commodity	1984/85	1985/86	1986/87 F	Share of 1985/86 prod. 2/
	1,000 tons			Percent
Rice (milled)	9,100	9,100	9,300	33.3
Peanuts	667	661	700	20.0
Sesame	231	273	300	10.2
Pulses	666	747	800	10.4
Vegetables	1,150	1,150	1,150	6.5
Total				80.4

1/ Fiscal year April–March. 2/ See explanatory note following the table of contents. F = Forecast.

SOURCE: Government of Burma, USDA estimates.

Program, a crop intensification program, which provides targeted townships with fertilizer, high-yielding seeds, and other inputs (table 7). The program was originally developed to expand rice production but has since been successfully applied to oilseeds, corn, wheat, pulses, and cotton.

Rice production fell slightly to 9.1 million tons in 1985. While the weather was favorable during planting, heavy rains at harvest reduced output slightly in three major producing divisions. Overall, yields remained stable (1.25 tons paddy/ha.) despite optimum urea applications in the targeted townships.

The Government usually procures about 30 percent of the total rice output as part of the Whole Township Program for urban distribution, exports, and stocks. Farmers are given a quota to fill and are paid at prices fixed since 1980. The farmer is free to use his remaining rice for home consumption, seed, or sale on the open market. The Government distributes rice in urban and deficit areas through a rationing system and families often supplement their diets from the black market. Since farmers can earn more in the black market than they receive from the Government, some rice does leak out of the official marketing network.

While price incentives encourage farmers to grow preferred varieties, no premiums are paid for high quality. Lack of grading, poor storage facilities, and antiquated milling equipment have resulted in low quality exports and reduced export earnings.

Rice production is now leveling off and Burma is giving increasing attention to diversifying crop production and agricultural exports. Oilseed production is a high priority for Government planners. Burma imports over 6,000 tons of edible oil each year. In 1984, the Government spent \$4.8 million of scarce foreign exchange to import this basic commodity.

The Government has encouraged oilseed production by providing improved seeds and fertilizer to targeted areas. Since farm prices of peanuts and sunflowers are not controlled and are currently very high relative to those of controlled crops, farmers have increased acreage dramatically since 1980. Peanut output has increased steadily from 445,000 tons in 1980 to 661,000 tons in 1985. Sunflower production has surged from 34,000 tons to 189,000 tons during the same time period.

While import substitution is the reason behind oilseed expansion, the need to diversify exports has encouraged the Burmese Government to give priority to pulse and bean production. Pulses are being cultivated in Burma's northern dry zones for the first time and as a second crop in paddy producing areas. Production in 1985 rose to 747,000 tons, up 5 percent from 1984. Pulse and bean exports are Burma's third largest foreign exchange earner. Traditional customers include Japan, India, Singapore, and the Netherlands.

Burma is also trying to emulate Thailand's successful development of corn for export. Corn production jumped from 169,000 tons in 1982 to an estimated 384,000 tons in 1985 due to high rates of fertilizer use. While Burma produces an average of 130,000 tons of urea per year, it must import additional supplies, as well as phosphates and potash fertilizers. The estimated 240,000 tons of imported fertilizer are still not enough to meet domestic demand, so the Government allocates it to crops receiving the highest priority. Since corn exports are now only very small and of low quality, fertilizer availability for corn may decline as other crops gain priority. As a result, corn production may fall in 1987.

Low Commodity Prices and Tough Competition Keep Export Earnings Down

Total export earnings fell 15 percent in 1985 to \$321 million. Agricultural exports represent over 90 percent of the total, with rice alone accounting for 25 percent. For the first time, teak became Burma's primary export, with 40.5 percent of total foreign exchange earnings even though the volume and value of hardwoods were only marginally up from 1984. The balance of Burma's export earnings are derived from other agricultural commodities such as pulses, beans, and corn, and metals and ores.

Sharp declines in the volume and value of exported rice brought down total export earnings. The Government is responsible for exporting rice. However, the bureaucracy was slow to respond to the rapid price decline and intense competition in early 1985 and Burma's

Table 8—Burma: Rice exports by destination 1/

Destination	1980	1981	1982	1983	1984	1985 2/
1,000 metric tons						
North America	—	21	—	—	—	—
South America	136	10	—	—	—	—
Europe	52	53	46	10	18	21
USSR	—	30	2	—	—	—
Middle East	—	10	—	50	—	—
Africa	181	276	258	170	182	167
Gambia	12	12	13	—	—	—
Ivory Coast	54	—	52	32	83	—
Madagascar	55	152	60	30	16	—
Mauritius	—	19	18	14	11	21
Others 3/	60	93	115	94	72	146
Angola	—	—	—	—	—	13
Ghana	—	—	—	—	—	20
Guinea-Bissau	—	—	—	—	—	6
Mali	—	—	—	—	12	11
Reunion	—	—	—	—	—	35
Senegal	—	—	—	—	—	31
Togo	—	—	—	—	—	14
Upper Volta	—	—	—	—	—	3
Zambia	—	—	—	—	—	3
Unaccounted	—	—	—	—	60	10
Asia & Oceania	305	274	396	520	468	254
Bangladesh	34	—	90	15	110	63
India	—	—	—	158 4/	194	—
Indonesia	107	94	83	170 5/	63	—
Sri Lanka	93	83	155	106 6/	60	32
Others	71	97	68	71	—	—
Malaysia	—	—	—	—	24	44
Vietnam	—	—	—	—	10	58
China	—	—	—	—	—	57
Others	71	97	68	71	7	—
Unaccounted	—	—	—	—	80	10
Total	675	673	701	750	748	452

— = None or negligible.

1/ Excludes rice bran, estimated at 27,000 tons in 1985.
2/ Preliminary. 3/ Individual country data not available for 1980-83. 4/ Carryover into 1984 on 1983 contract is 45,000 tons. 5/ Carryover into 1984 on 1983 contract is 65,000 tons. 6/ Carryover into 1984 on 1983 contract is 25,000 tons.

SOURCE: American Embassy Rangoon and USDA estimates.

rice exports plummeted to 452,290 tons, 35 percent below 1984 (table 8). The export value fell 43 percent to \$83 million.

Exports began to recover in December 1985 and heavy trading has continued. Burma exported 316,262 tons of rice in the first 4 months of 1986, compared to 102,794 tons during the same period in 1985. Total 1986 exports may recover to 600,000 tons, but the value will remain low as world rice prices continue to decline and competition intensifies.

Pulse and bean exports rose 96 percent to 102,300 tons in 1985 after a 24-percent decline in 1984. Last year, exports of black matpe, butter beans, and other pulses earned \$33 million. Export growth was due to increased demand from India and Japan.

Corn exports declined 17 percent to 22,600 tons. Rubber exports fell 26 percent to 6,700 tons in 1985, but oilcake exports increased 17 percent to 52,600 tons. The value of these sales, together with the earnings from the small volumes of cotton, vegetables, and processed meat exports amounted to less than 10 percent of total 1985 export earnings.

Burma is trying to develop new export crops such as cut flowers, horticultural crops, and fruit, and to improve the quality of such traditional exports as rice, rubber, and oilcakes. However, lack of foreign exchange inhibits the country's ability to import the necessary processing equipment and technical assistance.

The United States, Japan, and the World Bank, among others, continue to offer Burma concessional loans, grants and technical assistance. Much of this aid is being used to enhance agricultural production, to improve processing facilities, and to modernize the country's basic infrastructure. Without these changes, Burma will not be able to raise significantly its exports. However, even with planned improvements, low commodity prices may limit the growth of foreign exchange earnings. [Sara J. Schwartz (202) 786-1614]

INDONESIA

Growth Curbed By Weak Domestic And Export Demand

Indonesia's 1985 real economic growth fell sharply to an estimated 3 percent or less from 6.5 percent in 1984, as continued sluggish world trade reduced export revenues by \$1.6 billion. Agriculture, which accounts for 25 percent of real GDP, grew 5 percent, as in 1984. Indonesia's modern services sector (transportation, communications, and banking) contributed significantly to 1985 growth, but the slowdown in manufacturing and construction continued. Approximately 35,000 manufacturing workers were laid off during the year. Domestic demand remains weak and the manufacturing sector continues to operate well below capacity.

With 57 percent of government revenues and 73 percent of export earnings derived from petroleum and natural gas, the nearly \$1 billion less in 1985 gross oil and gas export revenues was felt throughout the economy. Since 1982, the Government has implemented various policy measures to restructure the economy and adjust to anticipated lower petroleum export revenues. These included sharp reductions in fuel subsidies, elimination of food and export subsidies, currency devaluation, deferment of large capital projects, tax reform, and improving the efficiency of the ports and customs service.

Foreign exchange reserves (\$5.9 billion at the end of 1985), were 3 percent more than a year earlier. The current account deficit of \$2.1 billion increased slightly. Total outstanding government and government-guaranteed foreign debt of Indonesia, one of the world's leading debtor nations, expanded to \$27 billion. The debt-service ratio as a percentage of exports may have approached a relatively high 25 percent in 1985.

Inflation decreased to about 4 percent in 1985 from 9 percent in 1984, mainly reflecting austerity measures that constrained aggregate

Table 9--Indonesia: Production of selected agricultural commodities

Commodity	1984	1985	1986 F	Share of 1986 prod. 1/
	1,000 tons			Percent
Rice (milled)	25,933	26,537	26,792	51.2
Cassava	14,205	15,400	16,600	7.5
Sugarcane	23,726	23,900	25,250	8.9
Rubber	1,012	1,150	1,200	6.0
Copra	1,101	1,260	1,300	4.3
Palm oil	1,055	1,300	1,500	5.3
Coffee	324	354	340	2.8
Total				86.0

1/ See explanatory note following the table of contents. F = Forecast.

SOURCES: Government of Indonesia, USDA estimates.

consumer demand, and ample supplies of rice and major secondary food crops except corn.

U.S. agricultural exports to Indonesia in 1985 decreased 57 percent to \$170 million. Exports of cotton (\$68 million), wheat (\$62 million), soybeans (\$11 million), and unmanufactured tobacco (\$5 million) accounted for 86 percent of the total. U.S. agricultural imports from Indonesia totaled \$682 million, 13 percent less than in 1984, with rubber and allied gums, coffee and coffee products, coconut oil, and palm and palm kernel oil accounting for 84 percent of the total. The country's agricultural trade surplus with the United States rose 31 percent from 1984 to \$512 million.

Agricultural Sector Continues Impressive Growth

Agricultural performance in 1985 was mainly determined by the ample monsoon of late 1984/early 1985 that permitted a large wet season rice harvest and replenished irrigation water necessary for high crop output levels during the dry season. Because overall rice production only increased slightly (1.4 percent), output gains in other crops such as copra, soybeans, rubber, and palm oil contributed to increased overall agricultural productivity (table 9).

Rice Dominates Staple Food Use

Food crops account for about two-thirds of total agricultural output. Overall 1985 grain production was essentially unchanged from 1984 at 31.1 million tons, with rice accounting for 85 percent of the total and corn the remainder. Rice provides slightly more than half of Indonesians' caloric intake. About 70 percent of calories are derived from starchy food sources. Per capita rice use, 160 kilograms in 1985, continues to trend higher. Indonesia's major secondary food crops are corn, cassava, sweetpotatoes, soybeans, and peanuts.

Corn, cassava, and sweetpotatoes are important in the diets of the lowest-income groups, although rice is preferred if it is available and affordable. The increasing demand for corn in poultry and livestock feeds raised the feed proportion of total corn use to 23 percent in 1985. Food use of soybeans is growing rapidly, providing a cheaper source of protein than meat and poultry. Indonesia, without domestic soybean crushing facilities, imports soybean meal increasingly to supply the rapidly growing but still relatively small feed industry. The use of scientifically compounded feed, still in its infancy, began with the growing poultry and swine sectors.^{1/}

Cash Crop Export Earnings

Though food for domestic consumption remains the Government's top agricultural priority, the need to increase non-oil export earnings, given the weak demand for petroleum, has resulted in an accelerated focus on the traditional export crops, which in recent years have accounted for only 11 to 15 percent of total export value. A seemingly overambitious government plan calls for large investments to expand the area of rubber, oil palm, sugarcane, coconut, coffee, cocoa, and tea from the current 4.3 million hectares to 8.2 million by 1990, and to rehabilitate about a third of the area presently under these crops. Indonesia's trade objectives are to increase traditional exports through competitive

^{1/} Grains, soybeans, soybean meal, and cotton are covered more extensively in Indonesia Export Market Profile article on page 32.

pricing, to increase export values through further processing, and to improve quality to meet international standards. The Government is linking its effort to expand export crop production with its ongoing transmigration program, designed to ultimately move about 2.5 million people from overcrowded Java to the outer islands. Government agricultural policies are designed to increase rural employment, decrease dependence on imports of various products in an effort to reduce foreign exchange expenditures, and to increase foreign exchange earnings by expanding exports.

Rubber Prices Depressed; Export Volume Steady

Indonesia remains second to Malaysia as a producer and exporter of natural rubber. Almost all production, which totaled 1.15 million tons in 1985, is exported. Production was slightly higher than in 1984 but export prices and total earnings were down sharply. Nevertheless, rubber retained its position as Indonesia's largest agricultural foreign exchange earner, accounting for about 35 percent of total agricultural export receipts. Rubber is the principal source of cash income for at least a million families, mostly in Sumatra and West Kalimantan. Approximately 75 percent of Indonesia's rubber is produced by smallholders.

Coffee Second to Rubber As Agricultural Export Earner

Indonesia is the world's fourth largest coffee producer, accounting for about 5 percent of world output. Coffee, second only to rubber, provided \$565 million in export earnings in 1984. Coffee production in crop year 1985/86 (April–March) rebounded 9 percent to an estimated 354,000 tons, approaching levels prior to the severe 1982 drought. About 90 percent of Indonesian coffee is produced on plots ranging between one-half and three hectares. The remaining 10 percent is divided between large private and government plantations. Coffee was introduced to Indonesia by Dutch colonists in the early 19th century. Today most of Indonesia's coffee is produced in southern Sumatra, Java, and Bali.

Nonexport quality coffee is generally consumed in Indonesia, amounting to about 10 percent of production. Per capita annual use is only about .5 kilograms. Indonesia exports only green coffee beans, about 85 percent of the Robusta type with the remainder Arabica. Indonesia is a member of the United Nations sponsored International Coffee Organization (ICO). Indonesia maintains that its ICO-administered export quota of 150,000 tons has been too low, requiring it to push its large surplus increasingly to non-ICO import markets. Other ICO exporting nations complain that nonquota exports undercut ICO prices and frequently end up being reexported to ICO consuming countries. In 1985/86 (April–March), Indonesian coffee exports totaled 300,000 tons, virtually unchanged from 1984/85.

A severe drought late in 1985 and subsequent major frost damage to bushes reduced Brazil's current and future coffee export potential, driving prices sharply higher and thereby boosting Indonesia's coffee export revenues. The escalating coffee prices led to an ICO suspension of member countries' export quotas February 18, 1986. With quotas suspended, Indonesia is focusing on increasing coffee exports to its main ICO markets—the United States, Japan, and the EC.

Palm Oil Output and Exports Surge

In 1985, palm oil output grew 14 percent to 1.2 million tons. Further steady gains are anticipated over the next several years based on net gains in overall producing area and higher average palm oil output per hectare. Oil palm area is expanding with the opening of new land in West Kalimantan and Sumatra. The Government encourages oil palm expansion through Nucleus Estate and Smallholders (NES) land development schemes, although some private companies are now preferring to limit investment risk by forming joint ventures with state-owned plantations. Under NES, private plantations are fostered by the Government and the plantations are responsible for providing extension credit, inputs, marketing, and processing services to smallholders surrounding the plantations.

Low palm oil prices and aggressive marketing in 1985 boosted exports by 164 percent to an estimated 652,000 tons, enabled

by high coconut oil availability in the domestic market. The government restriction on palm oil exports to no more than 10 percent of production was lifted in September to relieve downward pressure on coconut oil prices.

Tea Output and Exports Continue To Rise

Indonesian tea production in 1985 rose to 119,000 tons, 3 percent above 1984, reflecting better extension services provided to smaller tea plantations under the NES Project. Moreover, good weather boosted both quantity and quality of the crop. Black tea accounts for nearly 80 percent of domestic output and green tea the remainder.

Exports of tea, 95,000 tons and 80 percent of domestic output, were up 10 percent in 1985 despite depressed prices. Tea exports are almost exclusively of the black type and from large estates although smallholders account for about 20 percent of total output. Approximately 70 percent of Indonesian tea exports consists of tea leaf and the rest is in the form of dust. Countries importing tea leaf from Indonesia include the United States, Pakistan, Australia, the Netherlands, and West Germany, while Egypt and Singapore import mainly dust. Tea exports under the current 5-year development plan are projected to increase 2.6 percent annually through 1988.

Self-Sufficiency in Sugar Maintained

Indonesia's 1985 production of centrifugal sugar (raw sugar basis), 1.76 million tons, was slightly below 1984 output. Sucrose content was off from a year earlier reflecting continued problems in harvesting and transporting cane. Still, Indonesia has not had to import raw sugar since 1983 when government price incentives offered earlier resulted in a 15-percent increase in cane area harvested. More than 5 years ago, the Government embarked on an accelerated program to increase the country's sugar production by erecting new factories outside of Java and by rehabilitating existing sugar facilities on Java. This intensified effort was to achieve self-sufficiency in sugar by early 1989, the end of the current 5-year economic plan. Another important objective was to improve production efficiency and grower incomes. Smallholders produce about 60 percent of all sugarcane but generally prefer to grow other crops having greater profit

potential. Prior to World War II and Japanese occupation, Indonesia's sugar industry, under control of the Dutch colonists, was export-oriented, highly efficient, and an important source of foreign exchange for the Netherlands.

Oil Price Plunge Intensifies Uncertainty

The nation's economy, given its heavy export orientation with major dependence on crude petroleum, continues to reflect the health of the general world economy. Saudi Arabia, the largest producing member of the Organization of Petroleum Exporting Countries (OPEC), which includes Indonesia, abandoned oil output restrictions policies last December. This contributed mightily to an escalating oil price war that has currently shaved about one-half from late 1985 prices. The overall implications are somewhat uncertain, destabilizing, and politically threatening. Each \$1 decline in the export price for a barrel of petroleum lessens government revenue by about \$300 million, which may result in a \$3-4 billion revenue shortfall in 1986. There is increasing monetary turbulence and speculation against the Indonesian rupiah because of growing concerns about probable shortfalls of rupiah budget revenues, worries about foreign exchange outflows, and possible contraction of the economy at least through 1986.

The Indonesian budget for 1986/87 (April-March) presented on January 7 called for outlays of 21.4 trillion rupiah, 7 percent less nominally than in 1985/86 with, for the first time, lower planned spending for development. However, given Indonesia's balanced budget approach, further large cuts are possible because of the sharp drop in petroleum prices in early 1986.

In the agricultural sector, Indonesia has indicated it will cut back on imports of soybeans and cotton this year and boost exports of palm oil and tapioca (cassava starch). Although early 1986 prices were near or below production costs, an estimated 5-percent gain in output in 1986 will permit Indonesia to continue to export palm oil aggressively as in 1985, despite sluggish world demand for vegetable oils and high exportable stocks of palm oil, especially in Malaysia. For the first time, tapioca exports to the EC may reach the 250,000 import quota. Higher

export earnings from coffee, cocoa, tea, pepper, and tapioca are anticipated. Overall agricultural production growth of 3–4 percent may be realized in 1986 despite only a 2-percent projected gain in rice output and no increase in government support prices for rice, corn, and soybeans. Excessive March rains in some southern parts of Sumatra, Java, Bali, and Sulawesi were detrimental to the maturing main rice crop.

The forecast value of U.S. agricultural exports to Indonesia in U.S. fiscal 1986 is \$155.1 million, 24 percent less than a year earlier. The bulk commodities—wheat, soybeans, soybean meal, tobacco, and cotton—will account for 84 percent of anticipated U.S. farm sales to the country. Indonesia's sluggish economic growth and continued intense competition from other major exporters seeking to boost market shares are major reasons behind the lower forecast of U.S. sales. [*J. Albert Evans (202) 786-1614*]

MALAYSIA

Economic Growth Slowed in 1985

Malaysia's real GDP rose 2.8 percent in 1985 (5.2 percent in 1984), a remarkable achievement in the face of slumping prices for major export commodities. Exports contribute nearly 50 percent to GDP. Per capita nominal GDP increased to \$2,111, and inflation declined to less than 1 percent (4 percent in 1984). Current GDP growth is far below the 8-percent average during the 1970's and originally targeted for the 1980's. Since mid-1982, the Government has generally followed a policy of fiscal austerity by limiting spending to reduce budget deficits and external borrowing requirements.

Over several decades, Malaysia has evolved from an agricultural-based economy dependent on rubber and tin exports to a more diversified economy exporting electrical components and products—rubber, tin, petroleum, LNG (liquified natural gas), palm oil, cocoa, and other goods. The industrial sector contributes about a fifth to GDP, and provides employment for over one-sixth of the work force. Leading 1985 exports and their percentage of total export earnings were: manufactured goods (35 percent), petroleum

(23 percent), rubber (8 percent), sawlogs (7 percent), palm oil (10 percent), and tin (3 percent).

Foreign Exchange Reserves Rise

Lower 1985 prices for Malaysia's commodity exports of oil, LNG, rubber, timber, palm oil, and tin reduced Malaysian export earnings slightly to an estimated \$15.8 billion, despite larger exports of all these items except tin. The merchandise trade surplus was \$1.1 billion, compared with a surplus of \$1.6 billion in 1984. The current account deficit declined to about \$885 million, compared with \$1.6 billion in 1984. Foreign exchange reserves (excluding the value of gold) increased \$1.3 billion to total \$5.0 billion at year's end (table 1).

Agricultural Trade Surplus with The United States Down 13 Percent

U.S. agricultural exports to Malaysia decreased 24 percent to \$94 million in 1985. Exports of unmanufactured tobacco (\$31.7 million), fruits and preparations (\$18.8 million), cotton (\$10.4 million), and wheat (\$8.8 million), accounted for 74 percent of the total. U.S. agricultural imports from Malaysia totaled \$364 million, 16 percent less than in 1984, with rubber, palm oil, palm kernel oil, coconut oil, and cocoa and cocoa products accounting for 98 percent of the total. The country's agricultural trade surplus with the United States fell 13 percent from 1984 to \$270 million.

Poverty Persists in Agricultural Sector

Although agriculture's relative importance in the economy has declined, the sector currently accounts for 20 percent of GDP, provides employment for 35 percent of the work force, and contributes 40 percent of export earnings. Malaysia has a strong comparative advantage in producing tropical tree crops, especially rubber and palm oil, on large, efficiently managed estates. However, the persistent high incidence of poverty among small farmers remains a major concern of economic policymakers.

Small producers of rubber, rice, coconuts, and tobacco continue as beneficiaries of government policies and programs designed to increase farm productivity. For example,

Table 10--Malaysia: Production of selected commodities

Commodity	1984	1985	1986 F	Share of 1986 prod. 1/
	1,000 tons			Percent
Rubber	1,530	1,480	1,450	15.5
Palm oil	3,715	4,132	4,800	36.4
Meat, eggs, milk	404	409	425	11.0
Rice (milled)	1,103	1,135	1,157	15.9
Bananas, pineapples	655	637	640	3.7
Palm kernels	1,046	1,212	1,480	5.5
Total				88.0

1/ See explanatory note following the table of contents. Production shares for 1986 were calculated after weighting commodity output forecasts by 1976-78 base commodity prices. F = Forecast.

SOURCES: Government of Malaysia, USDA estimates.

small rice farmers are supplied with free seed and fertilizer, low-interest production credit, free irrigation water, and subsidized agricultural chemicals. Government officials continue to seek solutions to rural poverty, such as encouraging migration away from overpopulated rural areas to new government land development operations.

Palm Oil, Rubber, and Rice Dominate Agricultural Output

Total agricultural sector output expanded 2-3 percent in 1985 led by palm oil, rice, and cocoa. In 1984, agricultural output rose 4 percent. Malaysia's major export crops, palm oil and rubber, together accounted for more than half of 1985 agricultural output. With rice included, the three accounted for about two-thirds of total output (table 10). Of the estimated 4.0 million hectares in these crops in 1985, rubber occupied 1.9 million, oil palm 1.5 million, and rice 628,000.

Palm Oil Prices Plummet as Stocks Nearly Double

Malaysia, by far the world's largest palm oil producer and exporter, produced a record 4.1 million tons in 1985. This was 11 percent above 1984's record output, continuing the

long-term uptrend in palm oil production and agricultural output. The area under oil palm increased 9 percent to 1.46 million hectares by the end of 1985 following an 8-percent gain in 1984. Until palm oil output surged in the last 4 months of 1985, cumulative production had been surprisingly low and little different from 1984 levels. But the 2.0 million tons produced in September-December was sharply above the previous record for 4 consecutive months.

Early in 1985, palm oil prices were near record highs at about M\$1700 per ton, reflecting the lower-than-anticipated production, but declined sharply to less than M\$800 by year's end reflecting a world surplus of fats and oils and sluggish demand. Domestic crude and processed palm oil stocks on December 31 were record high and 86 percent above a year earlier. Export earnings from palm oil, Malaysia's second greatest source of foreign exchange, declined in 1985.

Weather and IR-42 Variety Rice Boost Output

Rice production in 1985 rose 3 percent to 1.14 million tons, after 2 years of disappointing output. Favorable weather and increased seeding of the high yielding IR-42 variety accounted for the increase. Production was higher in Peninsular Malaysia and Sarawak than in 1984 but lower in Sabah. In Peninsular Malaysia, output was higher in the MADA and KADA irrigated rice development areas, resulting in an overall gain for the country. These two development schemes cover 228,210 hectares or 36 percent of the total cultivated area in Peninsular Malaysia. KADA rice output was 80 percent more than in 1984 when flooding permitted only one crop instead of the customary two.

Wheat Imports from U.S. Down Sharply

Malaysia produces no wheat and relies on imports to satisfy domestic demand, growing at an average annual rate of 6-7 percent over the past 5 years. In 1984/85 (July/June), wheat imports of 635,000 tons were slightly down from a year earlier due to slower economic growth. Wheat consumption per capita, 37 kilograms in 1984/85, has risen as living standards improved. Although wheat is unlikely to replace rice in the diet, imports will continue to rise. There has been a

growing consumer preference for higher quality cakes, bread, and rolls that require high protein wheat. Purchases of low grade wheat for feeding livestock accounted for 7 percent of use in 1984/85.

In 1984/85, the U.S. share of Malaysia's wheat imports declined to 15 percent from 17 percent the previous year. U.S. wheat sales slowed to a 9-percent share in the latter half of 1984/85, displaced by substantial purchases of Canadian and Argentinian wheat at steep price discounts. Even neighboring Australia, the dominant market supplier, saw its share eroded to 63 percent from 82 percent in 1983/84. Malaysian millers most often buy the lowest priced wheat available and blend in U.S. wheat when producing high protein flour.

Poultry and Pork Are Major Meats

Malaysia is essentially self-sufficient in poultry and pork production, but it produces less than half its beef and mutton and has only a limited government-sponsored smallholder dairy industry. For most of 1985, both the broiler and pork markets faced an oversupply. Domestic milk production is only about 4 percent of total requirements. Almost no corn is produced in Malaysia and that which is goes mainly for human use. In 1984/85 (October–September), imports of 1.1 million tons were used almost entirely for feed. Thailand continues to supply most imported corn. Although bulk grain silo storage at or near several major ports has increased sharply, Thai corn is preferred by many importers because it's grown nearby, is deep yellow, and involves a shorter finance period.

Soybean meal produced by Malaysia's two crushing plants, and imported soymeal are major ingredients in livestock feeds. Tariffs to protect the relatively new crushing industry have been insufficient to keep out lower priced Chinese and Brazilian soymeal. However, Malaysia has successfully limited soymeal imports by licensing trade since mid-1983. Consequently, annual soybean imports by Malaysia's crushing mills appear to have stabilized in the 175,000– to 200,000-ton range. Soybean imports, which totaled 189,000 tons in 1985 and were predominantly for feed use, increased 9 percent from 1984. Soybean, palm kernel, and copra are the only oilseeds crushed in Malaysia.

Economic Sluggishness May Extend Beyond 1986

Malaysia's major 1985 and early 1986 economic problems stem from the sluggish world economy as reflected in low export prices for palm oil, tin, rubber, and petroleum products. The likely continuing volatility of commodity prices in 1986 makes economic forecasting difficult. Still, the nation's economic outlook for 1986 is for little or no real growth, possibly 2 percent or less. Sharply lower petroleum export prices will cost the Government \$2–3 billion in 1986 revenues, even if volume increases. Recent palm oil prices are below the unit production costs of many estates. Export prices for tin, rubber, and cocoa remain severely depressed near long-term lows.

Beyond 1986, growth will depend heavily on economic progress in the United States, Japan, and Western Europe, and on continued access to foreign markets. Economic growth prospects for the non-Communist industrial world have been boosted significantly by falling oil prices and interest rates.

Malaysia's new 5-year economic plan for 1986–90 targets annual average real GDP growth at 5 percent, despite poor current prospects. The unemployment rate is expected to rise to 10 percent in 1990 when an estimated 18 percent of the population will remain in poverty. The manufacturing sector has been earmarked to provide the major impetus to growth. Public development spending in 1986–90 is budgeted at M\$74 billion, compared to M\$80 billion in 1981–85.

Malaysia's National Agricultural Policy (NAP) through the year 2000 calls for concentrating even more on usually highly profitable crops, such as palm oil and cocoa, and for increasing farm productivity through such innovations as mechanization and pooling of land. Moreover, the NAP drops a long-held goal of self-sufficiency in rice production. It also discourages stepped-up beef and dairy production and planting crops for animal feed. The plan calls for opening more new agricultural land and for greater production efficiency on existing land. It also recommends continued government support services for farmers, such as credits and extension advice. Central management would be introduced to consolidate small uneconomic

plots of unused land into larger plots to improve productivity and facilitate mechanization.

Agricultural sector growth in 1986 will be led by palm oil and cocoa. Palm oil production (calendar year basis) is projected at 4.8 million tons, 16 percent above 1985, as approximately 65,000 additional hectares begin producing. Production of cocoa beans will likely increase about 39 percent in 1985/86 (October–September) to 120,000 tons. Malaysia may become the world's third largest cocoa bean producer by 1990, with production to exceed 200,000 tons.

In 1986, the outlook for Malaysia's palm oil exports will be determined primarily by demand from India, Pakistan, and the Soviet Union. The uncertainty regarding Russian (Malaysia's fourth largest market) demand in 1986 stems from possible larger domestic production of its two major oilseed crops, sunflowerseed and cottonseed, this year. Increased supplies of such oils as soy, sunflower, cottonseed, and rapeseed compete directly with the rapidly increasing supplies of Malaysian palm oil for markets. The Palm Oil Research Institute of Malaysia (PORIM) and the Palm Oil Refiners Association of Malaysia (PORAM), are responsible for promoting Malaysian exports. At a March 1986 Malaysian-sponsored palm oil conference in the United States, a Malaysian Government official indicated that his country is aiming for a 30-percent share of the U.S. cooking oil market compared with its present 2-percent share.

The forecast value of U.S. agricultural exports to Malaysia in U.S. fiscal 1986 is \$90.2 million, 8 percent less than a year earlier. The bulk commodities--wheat, soybeans, tobacco, and cotton--will account for 55 percent of anticipated U.S. farm sales to the country. Malaysia's sluggish economic growth and continued intense competition from other major exporters seeking to boost market shares are major reasons behind the lower forecast of U.S. sales. [*J. Albert Evans (202) 786-1614*]

THE PHILIPPINES

"People-Power" Forces Change in Government

Although presidential elections were not scheduled until 1987, President Marcos announced an earlier election for February 7, 1986, in an effort to reaffirm his mandate to rule and restore the confidence of international banks. The election victory claimed by former President Marcos was widely viewed as fraudulent and led to the unprecedented "people power" coalition of civilians, clergy, and military for opposition leader Corazon Aquino. The military rebellion and massive demonstrations eventually brought an end to the 20-year Marcos regime and led to the relatively peaceful transition of power on February 25, 1986. Given the revolutionary nature of the Aquino presidency, this coalition is cited as the basis for the new government.

Denouncing former-President Marcos' authoritarian regime, President Aquino presents herself as the moral alternative to Marcos and promises a renaissance of democracy, as well as economic, social, and military reform. Thus far, President Aquino has kept her promise of freeing political prisoners, appointed her cabinet, established a commission to recover allegedly ill-gotten wealth of former-President Marcos and his associates, reinstituted the writ of habeas corpus and the bill of rights, and begun the process of rebuilding the nation's institutions by abolishing the Marcos-controlled National Assembly, asking for the resignations of the Marcos-controlled Supreme Court, and replacing provincial leaders. A committee of 48 people has been appointed to draft a new constitution, with ratification of the constitution and general and local elections likely to be held by early 1987. The presidential election is scheduled for 1992.

The Economic Crisis Continues

Economic recovery continued to elude the Philippines in 1985. The export-led recovery failed to materialize as depressed world prices instead lowered export revenue below 1984

(table 1). Even with the rescheduling of foreign debt in May 1985, service payments on the \$26-billion debt demanded about half of export earnings. The May 1985 agreement reached with the International Monetary Fund (IMF) and the commercial banks called for tight fiscal and monetary policies, which helped lower inflation from 45 percent in January 1985 to 6 percent in December. Interest rates also fell, however, shrinking disposable income, and political instability discouraged investment.

The service and industrial sectors (accounting for over 70 percent of the country's GNP) declined for the second consecutive year, with the construction industry registering the most severe decline, off 28 percent from 1984. Mining arrested a 2-year decline, edging up half a point. Good weather benefited food grain production, which led to modest growth in the farm sector. In sum, real income fell 4 percent, pulling real per capita income down further, (more than 15 percent since 1983), as half the labor force was either unemployed or underemployed.

To continue receiving foreign financial support, economic policy during 1985 was again dominated by an IMF program of targets and reforms. Following 18 months of negotiations, both an IMF program and a \$10-billion financial rescue package were signed in May. The rescue package includes a \$5.8-billion debt rescheduling, the extension of \$925 million in fresh commercial credit, and nearly \$3 billion in short-term funds. One of the complications in arranging this was that the release of new commercial credit depend upon the IMF payments, and vice versa. Because of the May rescheduling, the additions to the capital account widened the modest balance of payments surplus to \$2.4 billion in 1985.

The narrowed merchandise trade deficit, totaling nearly \$500 million in 1985, also improved the balance of payments. Weak prices for the country's traditional bulk commodities and slowing demand for the nontraditional manufactured goods lowered export earnings by 15 percent. Import restrictions, a shrinking economy, and a devalued peso combined to produce a

Table 11--Philippines: Production of selected commodities

Commodity	1984	1985	1986 F	Share of 1985 prod. 1/
	1,000 tons			Percent
Rice (milled)	5,183	5,330	5,648	31.1
Corn	3,373	3,439	3,542	12.6
Pork	395	415	425	9.3
Copra	1,361	1,877	2,250	9.2
Chicken	256	241	245	8.8
Sugarcane	18,612	14,752	16,327	5.8
Mangoes	378	384	390	6.0
Pineapple	1,449	1,650	1,800	4.5
Total				87.3

1/ See explanatory note following table of contents. F = Forecast.

SOURCES: Government of the Philippines; USDA estimates.

16-percent decline in imports. International reserve holdings peaked in August at \$1.5 billion, then slid to \$1.1 billion by year's end.

Slow Growth in Farm Output Continues

Agriculture, accounting for 28 percent of the country's GNP, was again the only sector of the economy to expand. Commercial crop output was down about one-third in volume terms, largely because of declines in sugar and tobacco production (table 11). However, gains in food crops, coffee, coconut, and root crops were offsetting, resulting in overall growth of 1.3 percent (1.2 percent in 1984).

Bumper Food Grain Harvests

During 1985/86 (July/June), rice output rose an impressive 6 percent above last year, to a record 5.6 million tons. Aside from some typhoon damage in the country's major rice producing region of Central Luzon, weather conditions during the main growing season (July–October) were good. Output was up largely because farmers increased plantings to 3.4 million hectares. This expansion likely stemmed from the expectation of better rice prices following the removal of retail ceiling prices in October 1985. Lower prices encouraged greater fertilizer use; however, yields were lowered by typhoon damage. Last

year, imports of 528,000 tons (up from 212,000 tons in 1984) were contracted to curb retail price increases during the lean months of July–September and compensate for the cutback in wheat imports, however, no imports are expected in 1986.

The 1985/86 (July/June) corn crop rebounded by 3 percent to match the 3.5-million-ton record of 1983/84. Good weather and greater use of hybrid seeds and fertilizer on larger farms improved yields. Harvested area remained at 3.3 million hectares. Despite the Government's emphasis on corn production, the lack of financing, technical expertise, infrastructure, and low prices prevented wider farmer participation. In addition, the shortage of post-harvest facilities, notably in the main producing area of Mindanao, caused losses and kept the country from fulfilling feed millers needs. Imports of feed wheat are occurring in 1986, yet to protect farm prices, corn imports are unlikely to surpass the 125,000 tons (283,000 tons in 1984) bought in mid-1985.

Coconut Output Recoups, Faces Low Prices

Accounting for nearly half of world output, Philippine copra production in 1985 was estimated at 1.9 million tons. Copra output revived by nearly 35 percent from the severely weather-damaged 1984 harvest; however, abundant world vegetable oil supplies and falling prices discouraged a similar surge in coconut product output. Copra crushings and product output rose only 11 percent to produce about 960,000 tons of coconut oil and 470,000 tons of copra meal. In addition, exports of coconut oil were disrupted by an unsuccessful minimum export price policy aimed at arresting the price slide. Coconut oil, which usually sells at a premium to other oils, dropped from a peak of \$1,400 per ton in 1984 to \$395 per ton by the end of 1985. Still, the Philippines continued to be the world's largest supplier of coconut products, by increasing copra meal exports 18 percent to 445,000 tons and coconut oil exports by 12 percent to 655,000 tons. Even so, exports were well below historical levels, raising stocks substantially. Copra exports continued to be banned in 1985.

Sugar Crisis Continues

During 1985, the industry remained in turmoil, because declining domestic and international demand was further aggravated

by difficulty in attaining affordable financing, social unrest, and uncertain domestic policies. As a result, planters have reduced sugar area and fertilizer use. Sugar production in 1985/86 (September/August) is forecast at 1.4 million tons, 21 percent lower than the previous year's already reduced output of 1.8 million tons. Because Philippine costs of production are above the world sugar price, the Philippines is mainly producing for its share of the U.S. sugar quota and the domestic market. Exports are expected to drop by nearly 60 percent to 380,000 tons, while domestic demand, mostly fueled by the beverage industry, may fall an estimated 14 percent to 950,000 tons.

Other Crop and Livestock Highlights

Production of other crops during 1985 was mixed. Virginia leaf and burley tobacco production was cut 30 percent to 68,000 tons, because of large stocks from 1984's bumper harvest. Largely because of area expansion by plantations, pineapple output increased 14 percent to 1.6 million tons. Banana production in 1985 was off, mainly because civil unrest disrupted harvesting and discouraged investment. The Philippines continues to import 85 percent of its cotton needs, however, cotton production in 1985/86 (August/July) is up slightly to 4,000 tons, because the government program was augmented by increased private sector participation. The Philippines' increasing share of the International Coffee Organization (ICO) export quota has offset the income-related drop in domestic consumption and provided an outlet for the 51,000 tons (up 10 percent) of coffee produced during 1984/85 (September/August).

The economic crisis continues to take its toll on livestock and poultry raisers. Depressed demand and rising costs are forcing small-scale operations to sell out to larger producers. A 5-percent increase in hog slaughter to 8.3 million head, and pork production, to 415,000 tons, eased retail prices and allowed some recovery in pork consumption. Relative to other protein sources, higher costs and prices keep beef output and per capita consumption low. Herds have remained at 5.5 million head since 1982. Slaughter dipped to 500,000 head in 1985, well below the late 1970's average of 845,000 head. High poultry prices lowered

consumption by 5 percent to 243,000 tons, which then led to a 6-percent cutback in overall production to 241,000 tons by year end.

Agricultural Policy Reforms Proceed Slowly

The Marcos administration's "Agenda for Agriculture: 1984-88" planned to gradually phase out controls and interventions that interfered with production and investment, and dampened private sector initiative. Despite some reform, investment fell in 1985. The growing insurgency, uncertain political climate and uneven, unreliable policies stifled investment. Policy changes include partial lifting of the ban on liquor and wine imports, reducing of the tariff on live poultry (and other fowl) imports, and abolishing the 5-percent ad valorem import duty on all products.

Among the most important policy changes was removing the retail price ceilings on rice in October 1985. However, the Government's National Food Authority (NFA) remained the sole rice importer. The NFA also retained control of wheat, feed grain, and soybean meal trade through import licensing, which circumvented the policy opening these imports to the private sector. The sugar and coconut sectors also remained largely under monopoly control, despite announcements to the contrary.

In mid-1985, the Ministry of Agriculture and Food (MAF) began to survey each province and recommend crops to be cultivated, considering soil, weather, and prevailing local and foreign market conditions. By year's end, over half of the country's 72 provinces had been surveyed for this agricultural zoning program, which was then scheduled to provide financial and technical assistance to farmers who chose to cultivate the recommended crops. This program and several other pre-election announcements by former-President Marcos have been set aside pending review by the Aquino administration.

U.S. Share of Farm Imports Falls

During fiscal 1985 (October/September), U.S. farm sales to the Philippines declined 5 percent to \$284 million, largely because of lower prices and volumes of U.S. wheat and soybean meal. In addition, cheaper corn,

soybean meal and cotton from non-U.S. sources scaled back the U.S. share of these Philippine imports. Of the U.S. export sales programs available to the Philippines, only the P.L. 480, Title I program for 151,000 tons of U.S. rice was completely utilized. The loosening of foreign exchange controls in 1985 lessened the attractiveness of U.S. guaranteed credit GSM-102. As a result, the U.S. share of Philippine agricultural imports slipped to 47 percent from 55 percent in fiscal 1984.

Throughout fiscal 1986, U.S. farm sales to the Philippines will face stiff competition, largely from Asian sources. U.S. grain exports, mostly wheat, will again account for over half of total U.S. farm sales to the Philippines, followed by tobacco (about 15 percent), and soybean meal (about 10 percent). The Export Enhancement Program (EEP) for wheat (150,000 tons) and wheat flour (100,000 tons), as well as the \$35 million P.L. 480, Title I program will facilitate U.S. wheat exports. Because of ample Philippine milling capacity, it is likely that only half of the wheat flour program will be used. The Aquino administration's commitment to lessen government's role has resulted in the removal of import licensing, fueling expectations for stronger Philippine wheat import growth. In support of local corn and rice production, the government has effectively banned imports of these commodities, and instead imported feed wheat. During the first half of fiscal 1986, U.S. meal is outpacing Chinese supplies to the Philippine soybean meal market. However, with abundant Chinese supplies and the onset of the Brazilian harvest in April, U.S. meal is expected to be challenged in the second half. Even though Philippine textile mills are blending more cotton and decreasing the use of synthetic fibers, higher U.S. cotton prices are hindering exports. Aiding U.S. farm exports is President Reagan's recent announcement of a compensation program for the reduced U.S. sugar quota. Under this program, the Philippines is eligible to receive \$19 million worth of U.S. Government-held commodities.

Popular Support and Foreign Confidence Vital

As programs and policies are announced daily, the popularity of the Aquino Government remains an important, unifying force in the Philippines. The new Government faces a formidable challenge by inheriting a

stagnant economy, large foreign debt, high unemployment and widespread poverty, a weak export sector, noncompetitive import-substitution industries, and an entrenched communist insurgency.

Economic prospects for the Philippines remain sluggish, with minimal real growth expected before 1987. The Government promises the redress of income maldistribution, yet believes that for changes to occur, the economy must first expand. It is estimated that 70 percent of the population lives below the poverty line, compared with 46 percent in 1975. In addition to stimulating the economy and gearing policies toward rural areas, priorities that have already emerged include selling off many government corporations and banks, dismantling of monopolies, developing agriculture to strengthen the domestic economy, stabilizing the foreign exchange rate and reserves, lowering interest rates, and keeping inflation below 10 percent. With the gradual phasing in of the planned import liberalization begun in May 1986, imports are expected to post positive growth. More modest growth in exports is projected, suggesting a slight widening of the trade deficit. President Aquino has received support from the Philippine business community and the international financial community, however, the Government's policies will determine how much of the interest translates into actual investment. The Government welcomes foreign investment, but stresses it should augment and not supplant domestic sources. Of the \$2 billion in foreign assistance requested by President Aquino, \$500 million has been pledged by the United States, and about \$600 million by Japan, Australia, and the Asian Development Bank so far.

Heavy campaign spending by former-President Marcos before the February 7, 1986, presidential election has already pushed the money supply beyond IMF targets and in part caused the first quarter 1986 budget deficit (\$227 million) to surpass the yearend target. By mid-1986, the Philippines hopes to negotiate a new standby program with the IMF, receive the frozen 1985 commitments of \$230 million from the IMF and \$350 million from foreign banks, and raise an additional \$600-700 million for budgetary and balance of payments support. To post positive economic growth, the Philippines

believes more liberal terms in future agreements and a multiyear debt restructuring are essential.

Agriculture Plays Leading Role

As in the previous administration, agriculture is viewed as a key to recovery. The Government's rural-based priorities will focus efforts on public infrastructure and services, removing current urban biases, such as the industrial protection system, and addressing at least six major agricultural problems, namely credit, high costs of farm inputs, marketing, technology, monopolies, and land reform. Greater emphasis on cooperatives or contract farming, is proposed in recognition of the small size of most Filipino farms and the need to increase efficiency, improve farm management, and pool limited financial resources. Businessmen also suggest that Philippine agriculture suffers from inflexibility that results from inadequate knowledge of and marketing support for national and international markets.

Changes in farm policy that have already occurred include the integration of several agricultural agencies and the abolition of: wheat and soybean meal import licensing, the copra export ban, the meat import monopoly, and the quasi-government sugar trading and regulating agencies. Agrarian reform, previously restricted to rice and corn land, was broadened recently with the proposal to sell 9,000 hectares (about 3 percent of total area) of foreclosed sugarland to former sugar workers. The Sugar Council, a newly formed ad hoc policy advisory board, is recommending the beginning of annually adjusted production and trading quotas in 1987/88, restructuring of planters' debts, capping future interest rates at 24 percent, and the closing of excess mills. While copra may now be exported, strong coconut pricing and trading control continues by the milling cartel established under former-President Marcos.

In the short-term and with normal weather, most crops are forecast to increase in 1986/87, benefiting from cheaper fertilizer and pricing policies aimed at stimulating production. Record production of the country's food grains, rice and corn, is expected in 1986/87 (July/June). Sugar production is now forecast to increase as some expansion in both domestic use and non-U.S.

export markets counteract a shrinking U.S. sugar import quota. Copra output is forecast to increase again in 1986, below the record set a decade ago but matching the 1981 peak of 2.25 million tons. [Leslie E. Ross (202) 786-1614]

SINGAPORE

Shrinking Economy Troubles Nation

Singapore's recession-racked economy shrank 2 percent in 1985. This contrasts sharply with real GDP growth of 8 percent in 1984, which matched the 1975-84 average. Per capita nominal GDP declined to \$6,864, still second only to Japan among Asian countries. Inflation remained low at less than 1 percent. Layoffs, wage cuts, and business failures have been occurring with increasing frequency since mid-1985. Unemployment has increased to 6 percent, the highest level in 15 years. Anxiety and pessimism intensified throughout Singapore's business community during 1985.

Several factors combined to sharply curtail Singapore's economic growth. These included a general slackening in domestic demand for transport equipment and machinery, residential and nonresidential buildings, and goods and services by overseas visitors, particularly from Indonesia; reduced use of petroleum refining facilities and soft demand for products; and reduced export performance. Retail and wholesale traders, hotels, and property developers all face problems brought on by overexpansion and stagnant trends in tourism and regional trade. Growing uncertainty over the global and domestic economic picture has dampened the growth of business investment. Many long established sectors, including shipbuilding and oil refining, are facing permanent contraction and consolidation because of overcapacity and severe competition from lower-cost producing countries. The export sector was depressed in 1985 because of sluggish demand in major markets such as the United States, where electronics sales were weak.

Trade Is Vital

Foreign trade is still the key determinant of Singapore's economic well-being. U.S. agricultural products face a highly competitive and diversified market in

Singapore, essentially a duty-free port without trade restrictions. Singapore must import at least 80 percent of the food consumed by its population of 2.5 million, costing more than \$1 billion annually. Total U.S. shipments of farm products to Singapore amounted to \$113 million in calendar 1985, down 22 percent from 1984. Leading items were fruits and preparations (\$29.5 million), poultry meat (\$23.3 million), sugar and tropical products (\$15.0 million), vegetables and preparations (\$9.3 million), and vegetable oils and waxes (\$8.3 million). U.S. agricultural imports from Singapore (mostly transshipments) totaled \$90 million, with the major commodities being crude rubber and allied gums (\$20.3 million), palm and palm kernel oil (\$13.0 million), cocoa and products (\$18.1 million), and coffee and products (\$12.2 million).

Pork Production Phaseout on Hold

In 1985, the Singapore Government started the phased elimination of pig farming which was to be completed by 1988. Chicken farming in Singapore is also planned for elimination at a much later date. By mid 1985, most small hog farm operations had closed but large operations, which do not cause pollution problems, expanded their production, resulting in little decline in overall pork output. The Government is now reluctant to complete the planned hog farm phaseout because the larger farms have modern waste treatment facilities, and further reductions would create more unemployment and political pressure. Singaporean Government policy favors establishing joint venture pig farms in neighboring countries such as Malaysia and Indonesia. A joint Singapore-Indonesia venture has been set up to produce 200,000 pigs annually on Indonesia's Bulon island. This operation is expected to produce about 100,000 pigs in 1986 and approximately 200,000 in 1987.

Singapore's Economy To Contract Further in 1986

Singapore projects a 1.5-percent real decline in GDP for 1986. The economy contracted at an annual rate of 3.4 percent in January-March. This first-quarter performance reflects some economic improvement over last October-December's 5-percent annual rate of decline. Still, the

outlook has deteriorated since the earlier forecast of a flat economy (no growth or contraction) in 1986.

Singapore recently identified 14 potential growth sectors over the next 10-15 years, including biotechnology, computer products, specialty chemicals, and telecommunications equipment and services. In early 1986, a major new program was announced to stimulate an economic rebound to 5 percent or higher growth beyond 1987. Although the program has a pro-business orientation, it will give the average Singaporean, who has been told that he must take the brunt of the cost cutting adjustments, some income tax relief. Prime Minister Lee Kuan Yew recently stated that Singapore's manufacturing costs (especially the labor component) are too high compared with similar costs in Hong Kong, Taiwan, and South Korea. To increase competitiveness, the new program will feature tax reductions, reduced payments by employers into the Central Provident (old age retirement) Fund, and wage restraints.

Singapore's limited land allocated to farming will continue to shrink. According to Mr. Lee Yiok Seng, Parliamentary Secretary for National Development, only 1,500 hectares will be available for agriculture in the 1990's. Farmers will be grouped in high technology research and development parks. Land would be leased to local farmers and investors and to multinational agro-based companies for horticulture, fish and aquarium farming, poultry and bird breeding, crocodile breeding, and dairy cattle and frog farming. Currently, Singapore's production of food varies from 16 percent of the vegetables consumed to more than half of its poultry. By the 1990's, Singapore aims to produce 40 percent of its vegetable needs.

The forecast value of U.S. agricultural exports to Singapore in U.S. fiscal 1986 is \$110 million, 8 percent less than a year earlier. Sales of poultry meat (24 percent), fruits and preparations (27 percent), and vegetables and preparations including sugar and products (24 percent) will account for 75 percent of anticipated U.S. farm sales. The bulk commodities--wheat, soybeans, soybean meal, tobacco, and cotton--will account for only about 10 percent of this total. Singapore's sluggish economic growth and continued

intense competition from other major exporters seeking to boost market shares are major reasons behind the lower forecast of U.S. sales. [J. Albert Evans (202) 786-1614]

THAILAND

Economic Growth Continues To Slow

Thailand's economic growth slowed during 1985 due to weak commodity prices and reduced demand from major trading partners. While achieving substantial growth compared with its ASEAN neighbors, Thailand's 4.1-percent increase in GDP was well below the 6-percent growth posted in 1984. The country's trade deficit fell to \$2.2 billion in 1985 from \$2.3 billion in 1984 because of a 10-percent reduction in imports rather than an increase in export value.

A devaluation in November 1984 did not stimulate exports as intended but together with increases in import duties in April 1985 contributed to the decline in imports.

Thailand's macroeconomic policy continues to be focused on controlling the debt situation. The foreign debt service currently stands at 27.7 percent of export earnings. The 1985 current account deficit was \$1.6 billion. A tight monetary policy and high interest rates have restricted private investment. A tight fiscal policy loosened as tax revenues declined with the weakening economy. As the budget deficit expanded, commercial borrowers sought short and long term credit overseas, thereby increasing overall foreign currency debt.

Business investment and expansion were also hindered by sluggish consumer demand. Depressed agricultural commodity prices effectively reduced the disposable income of consumers, particularly in rural areas. However, the weak commodity prices together with falling oil prices have kept inflation low. The CPI rose only 2.4 percent, despite the expected inflationary impact of the devaluation.

In the nonagricultural area, tourism and export industries such as textiles, processed foods, and toys have clearly benefited from the devaluation. Industries producing consumer durables and other goods for the domestic market continue to be depressed.

Table 12—Thai agricultural exports, 1984 and 1985

Commodity	Volume		Value	
	1984	1985	1984	1985
	1,000 tons		Million dollars	
Rice (milled)	4,615	3,993	1,100	825
Cassava prod.	6,562	7,125	700	560
Sugar (raw eq.)	1,773	1,800	221	228
Rubber	592	675	550	495
Corn	3,116	2,700	425	310
Fishery prod.	180	178	305	340
Veg. (fresh & prep.)	80	80	17	7
Tobacco	36	36	70	67
Pine. prod.	193	200	126	135
Mung & black matpe beans	172	234	75	85
Poultry	34	44	60	63
Sorghum	342	335	34	39
Molasses	775	750	37	30
Fruit (fresh. & prep.)	63	100	34	42
Orchids	7,481	8,600	17	20
Other	NA	NA	639	754
Total	NA	NA	4,400	4,000

NA = Not available.

SOURCE: Foreign Agricultural Service, USDA.

The 1986 economic situation is likely to remain stable. Reduced oil prices will partially offset falling agricultural commodity prices. However, increased competition for Thailand's traditional exports, stagnating private investment, an austere government budget, and reduced consumer demand in Thailand's rural areas may keep the growth rate from rising above 4 percent.

Depressed Commodity Prices Hold Down Export Earnings

Agriculture's contribution to Thailand's economic growth was limited by reduced world demand for the country's traditional exports and depressed commodity prices. Thailand consistently produces large agricultural surpluses. However, in 1985 the volume of exports, as well as earnings, declined from 1984 (table 12). This trend is expected to continue through 1986 as competition for basic grain markets increases and prices continue to fall.

Thai farmers rapidly adapt to changing market conditions. They have reduced dependence on rice by shifting to commercial crops offering higher returns such as corn,

cassava, sugar, tobacco, cotton, and others. Much of the sector's growth has resulted from expansion into marginal, underutilized areas. The limit has been reached and production increases must now be derived from improved technology and long-term investment in land development. This translates into higher production costs which farmers are unlikely to incur unless farmgate prices improve.

Agriculture's contribution to the total GDP fell to 18 percent from 20 percent in 1984. This continues a long-term trend and places the sector behind manufacturing and retail/wholesale trade in economic importance. Agricultural commodities accounted for 55 percent of total export earnings in 1985, down from the 61-percent average in the last 5 years. Rice alone contributed 12 percent to the total. However, the volume and price of rice, as well as corn and tobacco, were down from 1984. The volume of exported tapioca products increased but not enough to offset the substantial decline in price. Of the major export items, only export earnings from sugar, canned pineapple, and prawns increased from 1984. Thailand's net agricultural surplus fell 11 percent from 1984 to \$3.3 billion. However, in 1985, Thailand increased its net agricultural trade surplus with the United States 78 percent to \$310 million through increased exports of rubber and canned pineapple and a drop in the value of U.S. cotton and wheat imports.

Agriculture Produces Mixed Results

Agricultural output grew 3.8 percent according to official estimates but may actually be as low as 2.2 percent, down from the 4.1 percent in 1984. The average increase for the last 4 years has been 3.2 percent, well below the 4.5-target set by the Fifth Five Year Plan (1982-86). Significant production gains were achieved for most crops (table 13). New records were set for corn, rubber, palm oil, soybean, and commercial pork production. However, farm prices continued to decline from 1984's already low levels, inhibiting agriculture's contribution to Thailand's economic growth.

Rice production reached a record 12.71 million tons in 1985/86 (wet season 1985 and dry season 1986), 3 percent above the 1984/85 crop. Timely rains led to increases in the

Table 13--Thailand: Production of selected commodities

Commodity	1984 1/	1985	1986 F	Share of 1985 prod. 2/
	1,000 tons			Percent
Rice (milled)	12,902	12,342	12,705	49.5
Cassava	20,225	21,900	16,690	8.5
Rubber	650	675	725	9.2
Sugarcane	23,087	25,053	25,500	8.7
Corn	3,950	4,350	5,150	10.0
Tobacco	80	73	67	2.2
Total				88.1

F = Forecast. 1/ Marketing year. 2/ See explanatory note following table of contents.

SOURCES: Government of Thailand; USDA estimates.

Central Plains. The northeastern region continues to shift away from glutinous to nonglutinous rice production. This year the region will yield 1.6-1.7 million tons of nonglutinous fragrant rice. Total rice export availability in 1986 is expected to reach 5 million tons, about 500,000 tons above 1984's surplus.

Thailand's 1985/86 (July-June) corn production surged to 5.15 million tons, 18 percent above last year's record as farmers shifted area out of lower-priced crops such as cassava and into corn. Increased use of high-yielding seed and good weather helped push up production. The exportable surplus is likely to rise to 3.7 million tons. Sorghum production is down slightly to 365,000 tons from 374,000 tons in 1984/85 (October-September). However, red sorghum production rose 50 percent from 80,000 tons in 1984/85 to 120,000 tons. The export demand for white sorghum may be declining. Red sorghum may replace the white as the predominant variety as the Government encourages production through the cassava diversification program, greater use of hybrid seed, and increased export and domestic feed demand.

Low farm prices resulting from a huge cassava root surplus in 1985 encouraged farmers to reduce area planted to cassava by 24 percent. Production is expected to decline 24 percent to 16.7 million tons, which will be processed into 5.95 million tons of tapioca

products. However, large sales to markets outside the European Community (EC) and expectations of a reduced harvest shot up root prices again at the end of 1985. As a result, farmers are expected to shift out of lower-priced commodities such as corn and kenaf and replant area to cassava. The 1986 export availability of tapioca products may reach 7.6 million tons (including carryover stocks), 23 percent below 1985, but may increase substantially in 1987.

Thailand's major oilseeds are soybeans, peanuts, cottonseed, and copra. Soybeans represent 52 percent of total oilseed production and are increasing rapidly. The 1985/86 (September/August) crop is forecast at 296,000 tons, 23 percent above a year earlier, due to increased planted area and higher yields. The Government has been developing and promoting improved seed varieties and has kept domestic soybean prices high by preventing imports. Local crushers and the U.S. Embassy have been pressuring the Government to approve import licenses. However, the Government claims that vegetable oil needs can be met with existing supplies or small quantities (about 10 tons in 1986) of oil imports. Soybean meal can be imported as long as 3 tons of domestic meal are purchased for every 4 tons imported.

Sugarcane production rose to 25.05 million tons in 1984/85, 8 percent above the 1983/84 (December/November) crop, and is expected to remain at that level this year. The weather has been favorable for the 1985/86 crop, but farm prices are lower than last year. As a result, farmers are reducing inputs and yields are expected to decline. The sucrose content of the cane is high and raw sugar output is expected to match last year's production of 2.5 million tons. Molasses production is also expected to remain stable. Export and domestic demand for molasses is unlikely to increase given the high price and the poor financial situation faced by Thailand's alcohol and whisky distillation industry.

Increased area planted to cotton and good weather contributed to a 27-percent increase in cotton production in 1985. While 33,000 tons of fiber were produced, it was well below the average of 52,000 tons produced from 1979 to 1984. Farm prices declined throughout the year as textile producers continued to import

inexpensive, high-grade cotton from Pakistan, China, and the United States. The textile industry is not expected to expand in 1986 because of sluggish domestic demand and restricted access to U.S. markets. As a result, domestic cotton prices and production may remain low in 1986.

Pulse production in 1985 remained stable at 290,000 tons. Prices remained low, discouraging area expansion. Mung bean production increased 10 percent to 220,000 tons, while black matpe output dropped 13 percent to 70,000 tons due to declining farm prices. Low farm prices also led to a reduction in area planted to tobacco. Production declined 13 percent to 63,269 tons in 1985. Cigarette production is not increasing due to reduced consumer purchasing power and higher excise taxes. Therefore, the Government is trying to restrict both local production and foreign leaf imports. Thailand continues to expand its rubber output, up 7 percent from 1984 to 675,000 tons in 1985, and increasing to 720,000 tons in 1986. Production increases reflect the Government's replanting program which encourages smallholders to replant aging trees with high-yielding plant materials. If the current trend continues, within 5 to 10 years Thailand could surpass Malaysia and Indonesia and become the world's largest rubber producer.

The livestock sector continues to expand and develop, spurred on by increasing export demand and growing consumer preference for quality meat products. However, broiler production declined 14 percent to 240 million birds. Although profit margins declined when high profits in 1983 led to oversupply the following year, swine production rose 17 percent to 5.9 million hogs in 1985. The cattle and buffalo population is stable at approximately 11 million head. Beef consumption remains low due to the low quality and high price relative to other meat and fish. Thailand produces 10-12 percent of its dairy product demand. Since imported powdered milk is less expensive than domestic fresh milk, large surpluses have developed. To soak up the surplus and reduce foreign exchange expenditures, the Government has allowed Nestle to establish a powdered milk factory in Thailand on the condition that the company purchase 50 tons of fresh milk per day.

Agricultural Exports Encounter Sharp Declines

Agricultural exports fell 9 percent in 1985 to \$4 billion, from 1984's record \$4.4 billion. Rice exports, representing 23 percent of all agricultural exports, fell 12 percent in volume to 4.0 million tons and 25 percent in value to \$825 million. The volume decline was mainly lower quality rice sales. Thailand's exports of high-quality rice remained level with 1984 and the low prices allowed increased penetration into traditional U.S. markets in Europe, South Africa, Nigeria, and the Middle East.

The value of corn exports fell 27 percent to \$310 million as volume declined 13 percent to 2.7 million tons. Thailand was unable to match its record 1984 exports of 3.1 million tons in 1984 because of lack of sales to Kenya and the Soviet Union. However, exports have been buoyed during the last 8 months by large sales to South Korea, forecast to reach nearly 1 million tons in 1985/86 (October/September). Japan and Taiwan remain reluctant to buy Thai corn because of its relatively low quality.

Cassava exports shot up 9 percent in 1985, but the value fell 20 percent to only \$500 million. The EC continued to take the largest share of cassava pellets (72 percent), but Thailand succeeded in selling a total of 1.6 million tons to non-EC markets: Japan (419,000 tons); Portugal (392,000 tons); the Soviet Union (288,000 tons); Taiwan (281,000 tons); and South Korea (243,000 tons). However, the export price of cassava pellets and chips shipped to non-EC markets were less than half the price of cassava products sold to the EC, dragging the overall export value down. Cassava flour sales were up 14 percent due to its low price relative to other starches.

Thailand was the world's fifth largest sugar exporter in 1985. Exports jumped 43 percent to 1.84 million tons, earning \$228 million in foreign exchange. Delivery of delayed 1984 shipments boosted 1985 exports and the development of new markets in South Asia, Switzerland, and the Middle East made up for reduced sales to Japan and Malaysia. Rubber is Thailand's third largest export item. While the export volume of unprocessed rubber increased 13 percent to 668,000 tons in 1985, the export value fell 10 percent to \$495

million. Japan and the U.S. continue to be Thailand's primary customers for this commodity.

Canned pineapple exports increased 7 percent in 1985 to 175,000 tons valued at \$122 million. Export earnings from fresh flowers, fruits, and vegetables registered strong gains in 1985, reaching \$61 million. The value of tobacco exports fell, but the loss was offset by increased frozen prawn and mung bean exports.

Thailand imported a record level of agricultural products in 1984, but imports slipped 5 percent to \$700 million in 1985. Soybean meal imports fell 60 percent to 155,000 tons and soybean oil imports dropped 70 percent to 13,000 tons due to protectionist policies and large carryover stocks. Wheat imports also declined by 20 percent to \$24 million because of high tariffs imposed in 1985 and the reduced purchasing power of consumers. Other agricultural imports include tobacco, sweetened forage, malt, and beverage bases.

The U.S. remains Thailand's primary supplier of agricultural commodities, holding an average of 31 percent of the market share from 1981-84. However, sales fell 26 percent in 1985 to \$121 million as U.S. cotton exports to Thailand plunged 50 percent because of noncompetitive prices. The U.S. market share of wheat and wheat products recovered slightly to 55 percent in 1985 from a low of 52 percent in 1984. However, flour consumption fell 16 percent to 2.4 kg. per capita in 1985 and U.S. wheat exports to Thailand only amounted to 94,000 tons valued at \$12.7 million. Thailand rebuilt its foreign leaf tobacco stocks by importing 8,736 tons of U.S. tobacco valued at \$47.6 million. Thailand's import substitution policies, the high dollar, and reduced local demand all combined to keep U.S. exports down throughout 1985.

Thailand Reacts to Food Security Act

Thailand has reacted strenuously against the rice provisions in the 1985 U.S. Food Security Act signed into law in December. By January 1986, Thailand sought to boost exports by eliminating the regulatory schemes it had devised in 1985 to raise domestic paddy prices. Stock holding requirements were eliminated, rice export taxes were suspended for all grades for the first time since 1955,

and a paddy price support scheme was abandoned. The interest rate on the rediscount of promissory notes offered to exporters was dropped from 8-9 percent to 7 percent.

The Government has also embraced barter trade as a viable method of ridding itself of surplus agricultural commodities. Recent barter arrangements include South Korean fertilizer for cassava, Brazilian tractors for rice, and Sudanese cotton for textiles. Other Government initiatives have resulted in the lowering of Japanese import tariffs on boneless chicken from 18 percent to 14 percent and the reduction of South Korea's 20 percent import duty on tapioca pellets to 7 percent.

Thailand has negotiated a new agreement with the EC which allows it to export 21 million tons of tapioca products to the Community over the next 4 years (1987-90). The agreement raises the annual average to 5.25 million tons from the 4.73 million tons required by the former agreement. However, the agreement has not been ratified by the Thais. The accession of Spain and Portugal (an important tapioca importer) means that there will be a 12-percent contraction during 1986 to those 12 countries, despite the 10-percent increase to the Community quota.

While Thailand has tried to increase its exports, it has also limited imports, particularly of luxury items and commodities which compete with locally produced goods. In April 1985, the import duty on wheat was doubled and duties on other commodities such as fruit and soybean oil were raised significantly. In addition, complex and costly licensing requirements inhibit the importation of many food items. Imports of soybeans, fresh citrus fruit and fresh milk continue to be banned.

1986 Export Earnings Scenario Bleak

Agricultural commodity prices are expected to remain depressed through 1986. Export earnings may fall 5 percent to \$3.8 billion dollars, depending on the volume of rice exported, the effect of the U.S. Food Security Act provisions on world rice, coarse grain, and cassava product prices and whether new markets can be found for surplus sugar and cassava.

The scenario for Thailand's top two foreign exchange earners, rice and tapioca, looks less promising than in previous years. Rice will encounter increased competition and weak international demand which may bring down export earnings. Export volume is forecast at 3.9 million tons, despite an export availability of 5 million tons. Reduced cassava output may drag its export earnings below \$500 million.

The 1985/86 corn crop is estimated at 5.1 million tons. Corn exports in 1986 may reach 3.5 to 3.75 million tons due to heavy South Korean purchases (about 1 million tons in 1985/86). However, export prices are so low (10-15 percent below U.S. corn) that there may be no increase in earnings despite the expected 39 percent increase in volume. Increased volume of rubber exports may not increase earnings for this commodity either as the average price continues to fall. Sugar exports and earnings may increase given new markets and recent price strengthening. Canned pineapple and prawn exports and earnings will also continue to rise. However, the gains derived from these three commodities cannot offset the price declines expected for Thailand's other key agricultural commodities.

Import duties and reduced purchasing power may continue to limit growth in agricultural imports. Limited access to U.S. markets will limit textile production and the need for cotton. The U.S. market share will be below 20 percent but may increase toward the end of the year as the Food Security Act's cotton provisions bring down U.S. prices. Wheat and wheat product imports may decline 10 percent due to the high tariffs, but soybean meal may increase to 200,000 tons as feed mills seek to replenish stocks. Little, if any, will come from the U.S. Thailand will probably continue stock building of tobacco by purchasing up to 10,500 tons from the U.S. in 1986. Overall, U.S. exports to Thailand are not expected to expand until tariffs are reduced and the purchasing power of Thai consumers strengthens. [Sara J. Schwartz (202) 786-1614]

CENTRALLY PLANNED SOUTHEAST ASIA 1/

Laos

Since the founding of the Lao People's Democratic Republic in December 1975, the Government has gradually broadened its role in the economy. While trade remains tightly controlled and the distribution system is dominated by the public sector, the Government made several policy changes during 1985 in hopes of slowing the growth of the budget deficit. First, all subsidies to public sector employees and the ration system were eliminated. Second, after 3 years of little change, official retail prices of consumer goods in state stores were raised about fourfold to near free market prices. To counter upward pressure on free market prices and strengthen the public distribution network, 90 percent of the salaries of public sector employees will now be paid in vouchers, redeemable only in state stores. And third, all public enterprises were given greater management and financial independence, with performance rated more on profits. However, the Government will continue to monitor and adjust the prices of the enterprise goods produced by these enterprises.

Farm Sector Drives Economy

Agriculture is the mainstay of the Lao economy and was largely responsible for a second consecutive year of strong economic growth. Real GDP rose 6 percent in 1985, following a 12.5-percent expansion in 1984. Merchandise exports reached \$48 million, up from \$45 million in 1984, as increased mineral and forestry product earnings offset reduced earnings from coffee exports. The sale of hydroelectric power to Thailand continues to earn over half of the country's hard currency (or readily exchangeable) earnings, which have amounted to 65-70 percent of total export earnings in recent years. However, the low

1/ Discussion of Cambodia (People's Republic of Kampuchea) has been omitted from this report because of the lack of information on that country's economy since communist rule began in April 1975.

level of international reserves and rising foreign debt service payments are forcing Laos to cut back imports from the non-Soviet sphere. Imports grew 6 percent in 1985 to \$163 million, with the Soviet-bloc countries and Vietnam supplying 70 percent of imports, up from a 50-percent average during 1981-83. Compared with an inflation rate of 23 percent in 1983/84 (October/September), consumer prices doubled during 1984/85, because of continued growth in the money supply and the sizeable increase in official prices.

Rice Output Target Met in 1985

Rice, which grows on nine out of 10 farms and provides 80 percent of the country's crop value, plays a key role in the economy's growth. During 1985, good weather, higher procurement prices, and an expanded extension service promoted more fertilizer use, better weed control, and denser planting of rice. The harvest is estimated to have reached the Government target of 1.3 million tons, up by 30 percent from the 1984 harvest (table 14). In years of good weather, the country is virtually self-sufficient in rice, although localized food shortages sometimes arise because of transportation bottlenecks.

The good weather also produced gains in subsidiary food crops (about 15 percent of crop output) and the cash crops (about 5 percent of crop output) of sugarcane, coffee, and tobacco. The opening of a sugar mill has encouraged sugarcane planting, with production rapidly expanding from 28,800 tons in 1983 to 83,100 tons in 1985. Although animal numbers are growing, the livestock sector remains small and encumbered with problems of disease, poor infrastructure, a lack of technical assistance to farmers, and a shortage of feedstuffs. Partially offsetting this deficiency and a drop in the fresh-water

fish catch has been an increase in aquaculture output from fish farms and flooded rice fields, providing a major source of protein for the landlocked Lao population.

The second Five-Year Plan (1986-90) repeats the objectives of the first Plan, namely: to improve and stabilize rice yields to attain food security; diversify farm output; improve infrastructure, particularly the transportation network; optimize use of natural resources, especially timber, minerals, and electricity; and develop industries supported by local raw materials. As with the first plan, foreign aid will be necessary to meet objectives.

Vietnam

A Decade United, Economic Reforms Continue

In 1985, Vietnam officially celebrated the 10th anniversary of the country's reunification under Communist rule. In practice, the integration of the country's two diverse regions--the agrarian market-oriented South and the more industrialized, socialistic North--has proceeded slowly. All major decisions regarding the economy are made by the Government in the context of its five-year plans. However, some decentralization of the planning process, including the use of price and profit incentives, began in the early 1980's. As a result, annual economic growth during 1982-84 was three times the 2 percent growth registered from 1976 to 1981. Despite the favorable trend in domestic output, Vietnam's balance of payments has deteriorated steadily in recent years. Vietnam's continuing dependence on imports, weak export growth, low foreign exchange reserves, heavy foreign debt, high inflation, and scarcity of skilled managers indicate the underlying weaknesses of the Vietnamese economy.

During 1985, the Government introduced several economic policy reforms that reflect further loosening of the central planning system. Food subsidies (excepting welfare payments) were abolished, a more realistic exchange rate was adopted, wage and price flexibility was encouraged, municipalities were given permission to export certain commodities, and businesses were given greater financial autonomy. The Government

Table 14--Laos: Production of selected commodities

Commodity	1984	1985	1986 F
1,000 tons			
Rice (milled)	1,000	1,321	1,400
Corn	34	36	40
Tobacco	16	22	25
Sugarcane	54	83	85

SOURCE: The Lao authorities; USDA estimates.

also began rescheduling its estimated \$2.3 billion in foreign debt obligations, 80 percent of which is owed to the Soviet Union. The chronic trade deficit widened, as imports of \$1.9 billion outpaced export earnings of about \$870 million. Real GDP grew 3.6 percent in 1985, down from 7.7 percent growth in 1984.

Agriculture Is Leading Sector

Agriculture accounts for more than 40 percent of Vietnam's national income, employs roughly 70 percent of the population, and is the country's major export earner. In 1985, agricultural growth slowed to 2.0 percent (down from 5.3 percent in 1984), largely because dryness in the South and typhoon flooding in the North damaged the rice crop. Rice output in 1985 fell to 9.7 million tons from 10 million tons produced in 1984 (table 15). Vietnam's other crop harvests varied. Reduced planting of sugarcane resulted in an 11-percent drop in sugar output, which approached 1983 production of 5.8 million tons. Soybean area, on the other hand, rose 10 percent, boosting production to 86,000 tons. Slow growth continued in rubber and peanut output, with tea production stagnating at 5,000 tons.

At the outset of the 1986-90 Five-Year Plan, agriculture is in the forefront of Vietnam's development goals. Boosting grain and subsidiary crops from the current output

Table 15--Vietnam: Production of selected commodities

Commodity	1984	1985	1986 F	Share of total prod. 1/
	1,000 tons			Percent
Rice (milled)	10,010	9,750	9,850	66.0
Corn	500	500	500	3.1
Sugarcane	6,478	5,800	6,000	3.0
Peanuts	162	165	170	1.0
Soybeans	69	86	90	NA
Rubber	47	50	50	1.0
Total				74.1

SOURCE: Vietnamese authorities; USDA.

of about 18 million tons to 25-27 million tons is stressed. Peanut, soybean, tobacco, and sugarcane yields are to be raised, with further investment in longer-term crops of rubber, coffee, and tea encouraged. Aquaculture, especially shrimp, will continue to be relied upon as an important foreign exchange earner. Because of inadequate cotton supplies, textile output will show little growth. Restoration of irrigation infrastructure in the Mekong River and Red River Deltas is a top priority and, along with Soviet aid, is seen as key to meeting the agricultural goals set for the 1986-90 plan. [Leslie E. Ross (202) 786-1614]

INDONESIA: AN EXPORT MARKET PROFILE

J. Albert Evans
Agricultural Economist
Economic Research Service

Abstract: By 1990 the value of Indonesia's agricultural imports from the U.S. may total about \$282 million, up sharply from the depressed \$170 million in 1985. This article examines the prospects for selected U.S. agricultural exports to Indonesia during the late 1980's. Wheat, soybeans, and cotton will continue to constitute the largest value shares of U.S. agricultural exports to this relatively poor developing nation still mainly dependent on petroleum exports for Government income and foreign exchange. By 1990, the U.S. sales volume of wheat and soybeans will have matched or exceeded 1984 levels. U.S. sales receipts for cotton and wheat in 1990 will still fall far short of 1984 results while those from soybeans will be slightly higher.

Keywords: Indonesia, economic growth, production, consumption, trade, agricultural policies, the Bureau of Logistics (BULOG), projected demand, import market shares.

Introduction

The Southeast Asian nations of Indonesia, Malaysia, Philippines, Singapore, and Thailand until recently comprised a very rapidly growing agricultural market. Collectively, these five countries were a billion-dollar-plus market for U.S. agricultural products in the early eighties (table A). Their combined population of about 270 million approximates that of the U.S. and Canada combined, and is more than double that of Japan, the largest U.S. overseas agricultural market. Indonesia, the focus of this article, with 60 percent of Southeast Asia's population and richly endowed with natural resources, was a \$438 million U.S. agricultural market in fiscal 1983/84. In 1984/85, however, farm sales plummeted to \$204 million and may drop to about \$155 million in 1985/86.

Bulk agricultural commodities—wheat, cotton, soybeans, soybean meal, and tobacco—continue to account for virtually all U.S. exports to Indonesia. This article briefly describes and analyzes current and prospective 1990 agricultural supply, demand, and trade for rice, corn, wheat, soybeans, soybean meal, and cotton. The analysis identifies problems that may limit U.S. exports because of intense competition and recent, and future uncertain Indonesian efforts to compensate for sharply lower oil export revenues.^{1/}

^{1/} For more on Indonesia's current economic difficulties see article on page 11.

Table A—U.S. agricultural exports to the world, selected regions and Indonesia, by value and growth in value, selected years 1974-85

Desti- nation	1974	1979	1984	1985	Growth rate		
					1974- 79	1979- 84	1984- 85
	----- Dollars/Million -----				----- Percent -----		
World	21,999	34,745	37,804	29,026	9.6	1.7	-23.2
Western Europe	7,029	9,896	8,837	6,938	7.1	-2.2	-21.5
Asia	8,357	12,108	14,907	11,191	7.7	4.3	-24.9
Southeast Asia 1/	771	899	1,145	791	3.1	5.0	-30.9
Indonesia	101	322	395	170	26.1	4.2	-57.0

1/ Includes Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Vietnam, and Thailand.

SOURCE: U.S. Department of Commerce.

The Macroeconomy

Indonesia is a nation of 13,677 islands (about 1,000 are inhabited) which extends 3,200 miles along the equator. It has the world's thirteenth largest land area and fifth greatest population, mainly on densely populated Java with its favorable climate, topography, and fertile soils. About 90 percent of Indonesians are Muslims, 5 percent Christians, and the remainder primarily Hindu or Buddhist. High illiteracy despite educational progress, underemployment, low

Table B--Indonesia: Selected macroeconomic indicators

Year	GDP	GDP per capita	Real GDP growth	Mid-year population	Population growth	Inflation rate	International reserves	Exchange rate per U.S. dollar
	Trillion rupiah	Dollars	Percent	Million		Percent	Million dollars	Rupiah
1970	3.3	79	7.5	119.5	2.4	12.4	164	365
1975	12.6	93	5.0	135.2	2.4	19.1	586	415
1980	46.4	317	9.9	146.4	2.3	18.5	6,500	627
1981	54.0	361	6.9	149.7	2.2	12.2	6,076	632
1982	59.6	390	.2	153.0	2.2	9.5	4,196	661
1983	73.7	471	3.3	156.5	2.2	11.8	4,814	909
1984	85.9	537	5.8	159.9	2.2	10.4	5,720	1,026
1985	92.3	565	3.0	163.4	2.2	4.8	5,880	1,111

SOURCE: International Finance Statistics, USDA estimates.

per capita income (\$501 in 1985), malnutrition, and rapid population growth are major problems.

Among the world's nations, Indonesia is classed as a developing country and among Asian countries, it has a low middle-income economy. In this highly centralized government, economic performance is judged against 5-year economic plans, the latest being Repelita IV which extends through March 1989. Economic growth has slowed since the early 1980's while agricultural performance continued strong (table B).

In the 1980's, Indonesia has incurred several large balance of payments deficits, mainly because of sharply lower earnings from oil and major nonoil exports (including rubber, tin, coffee, and palm oil), and a continued rapid growth in imports prior to 1983, when total imports began to decline. In FY 1982, the current account deficit reached \$7.0 billion and the overall balance of payments deficit was \$3.3 billion. Prospects for the Indonesian economy in early 1986 are the bleakest in several years. Current account deficits, intensified austerity, and slow growth and development seem certain to continue through the late-eighties mainly because of dim prospects for primary export commodities.

Agricultural Production

The Structure of Agriculture

Of Indonesia's land area of 192 million hectares, about 23 million are potentially arable for permanent annual cropping. About 122 million hectares are forested lands. The

agricultural sector consists of approximately 14 million smallholders and around 1,800 large estates. Smallholders (growers with small land parcels worked intensively) cultivate some 14 million hectares of food crops annually, although the physical land area worked is much less because of widespread multicropping. They produce food crops for domestic use and mainly rubber, coffee, pepper, and tobacco for export. Large export-oriented estates tend more than 2 million hectares and mainly produce rubber, palm oil, coffee, and tea, mostly on islands other than Java. Most land suitable for agricultural development is located in southern Sumatra, Sulawesi, and southeastern Kalimantan.

Indonesia's tropical agriculture is based on a distinctly seasonal climate with two monsoons annually: a dry or east monsoon from July through September and a wet or west monsoon from December through March. April through June, and October–November are transition periods. The most fertile alluvial soils extend across Java to parts of other major Indonesian islands, including Sumatra, Nusa Tenggara, and Sulawesi. Rivers descending Java's volcanic slopes supply irrigation water for terraces in the valleys and for rich alluvial plains to the north. Although Java comprises only 7 percent of Indonesia's land area, more than 60 percent of Indonesia's 165 million population is concentrated there, ranking Java among the world's most densely populated areas.

Food Crops

Production of all subsistence and cash crops, except oil palm, sugarcane, and tea, is dominated by smallholders, using extremely

Table C--Indonesia: Number and size of smallholdings and estates (1973)

Item	Smallholdings	Estates	Total
Total number (Thousand)	14,253.7	1.7	14,255.4
Total area (Million ha)	13.9	2.2	16.1
Average size (ha)			
Java-Madura	0.64	876.5	--
Sumatra	1.34	2,212.7	--
Kalimantan	2.71	697.1	--
Sulawesi	1.38	542.4	--
Indonesia	0.98	1,222.2	--

SOURCE: Indonesian Central Bureau of Statistics: "The 1973 Agricultural Census."

labor-intensive methods (tables C and D). Machinery is scarce and usually the only nonhuman power is provided by cattle or buffalo. More than half of all smallholder farm families live on Java, Madura, and Bali, where they grow irrigated rice, the dominant food crop, and other food crops. Small farmers on the other islands, particularly Sumatra and Sulawesi, also produce food crops but grow export crops such as rubber and coffee as well.

Smallholdings may be classified according to the category of cropland. Farming on "sawah," which are highly valued fields devoted to wet-rice cultivation, is practiced where soils are naturally fertile and where conditions favor the controlled flooding of fields for irrigation. Sawah farming covers only about one-fourth of the cropland area of Java and Madura, about 15 percent of Bali, and parts of Lombok, Sumatra, Nusa Tenggara, south Sulawesi, and Kalimantan. Sawah land accounts for only about 1 percent of the farmed outer island area. In areas where soil fertility is high and irrigation is available year round, sawah land can yield two or three rice crops a year. However, not all sawah can be double cropped in rice because irrigation may not be possible in the dry season. Thus, during the dry season, sawah land may be seeded with the major secondary food crops, such as corn, soybeans, peanuts, or sweet potatoes, to provide an important supplementary source of income.

Other categories of cropland important on Java, Madura, Bali, and Lombok are "tegelan," or unirrigated fields, and "tekaragan," or small

Table D--Indonesia: Production, harvested area, and average yield of major food crops, 1971-73 and 1981-83 averages, and 1984 and 1985 1/

Crop	Average		1984	1985
	1971-73	1981-83		
1,000 tons				
Production				
Rice 2/	18,838	23,043	25,933	26,537
Corn	2,850	4,277	5,288	4,550
Cassava	10,754	12,797	14,205	15,400
Sweet potatoes	2,221	1,994	2,338	2,330
Peanuts 3/	476	771	747	755
Soybeans	525	602	625	743
1,000 hectares				
Harvested area				
Rice	8,209	9,177	9,764	9,831
Corn	2,740	2,673	3,086	2,223
Cassava	1,434	1,311	1,338	1,361
Sweet potatoes	358	258	283	278
Peanuts	382	488	491	550
Soybeans	710	695	765	950
Tons per hectare				
Average yield				
Rice	1.69	2.51	2.66	2.70
Corn	1.04	1.60	1.71	2.05
Cassava	7.50	9.76	10.62	11.32
Sweet potatoes	6.20	7.73	8.26	8.38
Peanuts	1.25	1.58	1.52	1.37
Soybeans	.74	.87	.82	.78

1/ Smallholders account for virtually 100 percent of Indonesia's production of the major food crops in this table. 2/ Milled basis. 3/ In shell.

SOURCE: Indonesian Ministry of Agriculture and Central Bureau of Statistics.

house vegetable gardens intensively cultivated for home food supply and for occasional income. "Tegelan" fields are planted with dryland crops, such as corn, soybeans, sweet potatoes, cassava, sorghum, and peanuts, as well as dryland rice, usually referred to as upland rice. These "Tegelan" fields may also be double cropped.

In the thinly settled outer islands, "swidden" agriculture prevails. Swidden farming involves slash-and-burn clearing of land and cultivating dryland crops for 1 to 3 years, and then allowing the plot or plots to lie fallow for 5 to 20 or more years while soil fertility is restored. In the interim, farmers work other land that in turn is also left fallow. However, swidden culture is not compatible with the Government's agricultural development plans for the outer islands, which

requires permanent fields, fertilizer, new implements, improved land management techniques, and suitable crops.

Domestic rice production has expanded 159 percent since 1965, based on a 34-percent increase in area harvested. The Indonesian rice economy has been transformed by improved varieties and fertilizers, the rehabilitation and expansion of irrigation systems, and improved management practices. The harvested rice area expanded from 7.3 million hectares in 1965 to 9.8 million in 1985. Rice yields increased from 1.4 tons per hectare in 1965 to 2.7 tons per hectare in 1985. Various Government programs extended research results to farmers' fields and provided effective organization of farmer groups. Finally, the Government-administered input and output pricing policies created incentives for farmers to apply the high-yielding technology. In mid-1985, the Government halted the BIMAS, INSUS, AND INMAS production incentive programs for rice.

Corn is the second most important cereal crop in Indonesia and is grown in almost all provinces. Largely due to climatic variability, areas in corn fluctuate more from year to year than those of any other secondary food crop. Nevertheless, average corn yields have increased steadily. Yield increases from available seed technology have only begun to be exploited and will expand at a rate largely dependent on improvements in seed multiplication and distribution. Farmers have increased the multicropping of rice at the expense of corn. An inadequate supply of hybrid seeds that produce high-yielding, early-maturing, and disease-resistant corn has been singled out by the Government as the most critical problem to be overcome before corn production can be shifted to a higher plane. Any significant long-term increase in production of corn or other secondary food crops will likely occur in the outer islands and as a second crop to rice on Java.

The area and production of cassava and sweet potatoes depend to a considerable extent on the supply of rice. Cassava and corn are the principal food crops other than rice grown in unirrigated areas. Cassava is low in nutritional value but cultivable almost anywhere and is widely used as a contingency crop in case of a rice shortage. The normal

cassava yield in Indonesia is roughly half that achieved in Thailand, partly reflecting a low intensity of cultivation, poor steep land under cultivation, and low fertilizer use. Sweet potato production has continued stable at about 2.1–2.2 million tons in most years since 1969, while harvested area decreased and average yields increased.

Soybeans and peanuts are usually grown in rotation with other staple crops, especially rice. Nearly 80 percent of Indonesia's soybeans are produced on Java and Madura. Over 75 percent of domestic peanut production is on Java. Despite growth in consumption of peanuts, barriers to increased output include diseases and pests, poor seed quality, high seed cost, and a shortage of draft animals for tillage. Wheat is not grown in Indonesia because of the country's unsuitable climate.

Cotton

Indonesia produces only about 10 percent of the raw cotton (mostly medium staple fiber, 1–1/16 inch) consumed by its textile industry. For 1985/86 (August–July) cotton output and harvested area are estimated at 13,100 tons and 63,000 hectares. Major producing areas are in southern Sulawesi, Nusa Tenggara, and East Java. Domestic output continues to expand under the Government's cotton intensification program, which establishes a guaranteed price to producers and provides improved seed, fertilizer, and pesticides.

Agricultural Policies

Overview

Food and nutrition policy is directed toward three objectives: to maintain an ever-increasing food supply at prices acceptable to low-income Indonesians, but high enough to encourage increased production; to promote diversification in food consumption patterns, reducing the dependence on rice, the major grain staple; and to reduce diseases caused by nutritional deficiencies. Consistent policy since the late 1960's has sought self-sufficiency in food production to drastically reduce food imports. Accordingly, the Government has invested heavily in irrigation, fertilizer production and distribution programs, and credit and price support programs.

Government food crop programs aim to expand crop production through increasing both yields and areas under cultivation. Rice, the major food crop, received virtually total attention during Repelitas I and II. Under Repelitas III and IV, priorities have been adjusted to channel more resources to the major secondary food crops, especially corn and soybeans, although rice continues to dominate budget allocations. For secondary food crops, the Government is attempting to increase farmer participation with programs similar to those introduced successfully for rice in the mid-1960's. These programs resulted in rapid farmer acceptance of high-yielding rice varieties and associated production technology, including fertilizers and chemical pesticides.

Food Crops

BULOG, the Government agency responsible for the National Food/Rice Price Stabilization Program, cooperates with a variety of Government and non-Government agencies, including the Departments of Agriculture, Trade, Cooperatives, and Finance, the National Planning Agency, Bank Indonesia, village cooperatives (KUDS) and universities.

BULOG's strategy for regulating prices of rice and other major food crops includes: (1) direct intervention in the market, mainly for rice and sugar, (2) regulation of trade, and (3) maintenance of price ceilings for consumers and price floors for producers, and (4) reliance on imports to sustain per capita consumption at desired levels. BULOG is the sole importer of rice, wheat, sugar, corn, soybeans, and soybean meal.

The Government continues to stimulate food crop production by providing inputs, including fertilizer, at subsidized prices while gradually increasing floor prices. The stabilization of food prices, especially for rice, remains a major food policy objective because public welfare is closely identified with the supply and price of rice. BULOG maintains reserve stocks of rice and other commodities to stabilize retail prices through market injections of additional supplies as needed.

The development of cooperatives remains a high Government priority. There are about 5,000 rice-based rural agricultural cooperatives. The role of village cooperatives (KUDS) has expanded with respect to programs and activities in food production and marketing. KUDS are involved in rice and secondary crop intensification programs, particularly in supplying fertilizers and pesticides provided by the Government to farmers on concessional terms. Moreover, the KUDS role in BULOG's procurement program for rice and secondary food crops has expanded rapidly in recent years. The mechanism that maintains floor (support) prices for farmers is a commitment by BULOG to purchase these crops from KUDS at set prices higher than those paid by the KUDS.

Rice and secondary food crops with BULOG administered floor prices are shown in table E. BULOG will continually face the problem of setting floor prices high enough to stimulate production, but low enough to keep prices for domestic crops competitive with imports and cheap enough to export without excessive subsidies.

Indonesia's emergence as a surplus rice producer has brought both economic and political pressure on BULOG. The problems stem mainly from: (1) BULOG's toughened stance in 1985 that procured rice had to meet established quality standards or be sharply discounted in price below the Rp175 (\$.16) floor price for rough rice, and (2) BULOG's experience in 1984 and 1985 when high rice procurements and stocks resulted in operating losses (despite exports in 1985) because retail market distributions were virtually nil.

During 1985, BULOG's rice stocks swelled to 3.3 million tons. The agency was unable to

Table E—Indonesia: BULOG administered floor (support) prices for food crops, Indonesian fiscal years 1982/83–1986/87

	1982/83	1983/84	1984/85	1985/86	1986/87
	----- Rupiah/Kilogram -----				
Rice, (rough)	135	145	165	175	175
Corn	105	105	105	110	110
Soybeans	270	280	280	300	300
Mung beans	310	310	310	325	325

SOURCE: USDA, Foreign Agricultural Service, "Annual Agricultural Situation Report--1986," Jakarta, Indonesia.

cover its rice storage costs because plentiful low-priced rice in virtually all areas of the country resulted in only a small drawdown of BULOG stocks to stabilize retail rice prices. To cover operating costs in 1984 and 1985, BULOG was exhausting its limited reserves accumulated in earlier years when a constant turnover of stocks limited the physical storage problem and allowed the agency to build reserves and cover operating costs from market price stabilization operations. BULOG has historically operated by obtaining low-interest loans from Government banks to finance domestic and foreign rice purchases. These loans were repaid when rice was sold. To alleviate financial pressure on BULOG, the Government budget for 1986/87 contained funds to cover BULOG's entire cost of acquiring 1 million tons of rice, and interest charges for storing 2 million tons.

For many years before rice self-sufficiency was attained, BULOG provided farmers with a guaranteed floor price for low grade rough rice. The agency competed actively with private sector rice dealers in stockpiling and distribution operations. Despite relatively high BULOG acquisitions in 1985, the competition diminished somewhat and some growers actually received less than Rp100 per kilogram for their rice, despite the Rp175 floor price. In 1985, BULOG was heavily criticized for its unwillingness or inability to defend the floor price for farmers. BULOG's response to this criticism was that it paid the support price for all rice that met established quality standards (not more than 14 percent moisture and 3 percent foreign matter), and discounted prices only for substandard rice.

This year, BULOG is maintaining the Rp175 floor price and intends to again enforce the minimum quality standards, although it will continue to purchase substandard rice at discounted prices. So that farmers may anticipate better prices, the agency is urging them to dry and clean their rice more thoroughly to improve quality, and to store it at home during peak harvest periods before taking it to market. Still, BULOG has lowered its rice procurement target to 1.5 million tons from 2.0 million.

Continuance of the Rp175 floor price undoubtedly reflects domestic rice sufficiency, high BULOG stocks, and austerity

efforts to offset falling Government revenues resulting from sharply lower petroleum prices. The fertilizer subsidy is continuing in 1986, although the Government would eventually like to phase it out.

Soybean Meal

To conserve foreign exchange, the Government would like to eliminate soybean meal imports and sharply increase domestic soybean production to a seemingly impossible 1.3 million tons in 1986. Soybean meal imports were reduced in 1985 for this reason but also to stimulate demand for domestically produced ingredients. Much of the planned 400,000-hectare increase in planted soybean area would come from dryland normally planted in rice. The domestic feed manufacturing industry continues to grow to meet the demand of the expanding poultry and livestock sector. A soybean crushing plant that can produce 240,000 tons of meal per year is reportedly under construction. The project may be completed sometime in 1987 if not halted as an austerity measure. The crushing plant has been planned for several years despite such economic questions as how to dispose of the soybean oil produced, given Indonesia's surplus of palm oil.

Livestock sector development is still relatively small in Indonesia although the Government continues efforts to increase production and productivity to enhance farm income, generate employment opportunities, diversify and improve the national diet, and to earn foreign exchange. In general, Government statistics on the livestock sector are fragmentary, dated, and of questionable accuracy.

Indonesia's first milk powder plant began operating in 1985. The Government requires milk processors to link imports of milk powder to purchases of domestically produced milk. Projects are being developed to expand swine, dairy, draft, and beef cattle numbers and to import breeding stock. Poultry meat and egg production continues to expand. To protect small-scale producers, the Government in recent years has imposed limits of 5,000 hens and 750 broilers on individual operating farm units except farms producing for export.

The Government increased the farmgate price of seed cotton from Rp285 per kilogram to Rp335 in November 1984.

Government-owned cotton plantations are responsible for providing credit, inputs, and technical assistance to small farmers surrounding the plantations. Credit advances and input costs are deducted from gross sales when farmers deliver their cotton to the plantations for ginning.

Indonesia imports raw cotton duty-free while imposing tariffs on manmade fibers. The Indonesian textile industry is striving to increase textile exports and domestic sales. Textile industry development was deemed of high priority as a way of adding value to domestically produced cotton while increasing employment.

Indonesia has recently created a central buying company (CBC) for cotton and fiber. The company was created solely to purchase and distribute all domestic and imported cotton and fiber for use in the Indonesian textile industry. Cotton end-users will still negotiate and contract with foreign suppliers for their cotton and fiber needs. However, lines of credit with cotton exporters must be opened by the CBC.

Import Constraints

A country may limit imports through various measures including: (1) import substitution policies that favor domestic producers; (2) domestic producer support prices that are higher than comparable landed import costs; (3) import tariffs and quotas; (4) counterpurchase agreements, and (5) granting monopoly trade powers to a private firm or Government agency such as BULOG.

o Import Substitution Policies

Indonesia subsidizes the production of rice, corn, cotton, and soybeans to conserve foreign exchange and to develop its agricultural sector and related industries. Agricultural credit, government irrigation infrastructure, and fertilizer, pesticides, other input subsidies, and extension assistance are among incentives to enhance agricultural productivity and limit imports.

o Producer Support Prices

Support prices established through BULOG for corn and soybeans are well above landed import prices to encourage greater output. However, the Government must be aware of intended consumption goals for individual commodities, and maintain producer support prices in desired relationships to each other. High producer support prices or marketing and distribution inefficiency in the absence of consumer food subsidies raise retail food prices and lower effective demand. Wheat, though not produced in Indonesia, is imported by BULOG and milled by P.T. Bogasari Company on a contractual basis. The wheat flour is then distributed by BULOG through a system of private distribution agents that receive flour allocations from BULOG at prices controlled by BULOG. Rice support prices and subsequent BULOG storage and operating costs prevent profitable BULOG rice exports at current export price levels.

o Import Tariffs and Quotas

Tariffs are the predominant Indonesian Government policy instrument for controlling imports. Most major U.S. bulk agricultural commodities enter duty-free, being considered "most essential items," and are imported by Government trading organizations. Cereals, soybeans, soybean meal, and cotton are imported duty-free. Thus there are no tariff constraints against imports of the commodities highlighted in this study.

If the Indonesian Government establishes import quotas for cereals, soybeans, soybean meal, or cotton, they are closely held information. It is not uncommon, however, for officials to be quoted on the need to hold down imports of some commodity or another, as recently for soybeans and cotton, in general terms without mentioning any import limit. Thus, it is difficult to determine the impact, if any, of such pronouncements.

o Counterpurchase Agreements

Barter (counterpurchase) arrangements between countries have grown increasingly common in recent years and tend to limit trade by changing the terms of trade to make it less competitive. Indonesia has increased its emphasis on counterpurchase agreements in recent years but has tended to exempt trade

Table F--Indonesia: Calories per capita per day, by source, selected years, 1970-80

Source	1970	1974	1980
Rice	1,070	1,140	1/1,310
Rice bran	61	63	2/
Wheat flour	47	47	69
Corn	252	251	233
Cereal	1,430	1,501	1,612
Tubers and root crops	198	222	240
Sugar	114	130	153
Pulses, nuts and oilseeds	121	118	326
Oils and fats	97	119	133
All other sources	137	158	106
Total calories	2,097	2,248	2,570

1/ Includes calories from rice bran, shown separately for earlier years. 2/ Unknown amount included for rice above.

SOURCE: Food Balance Sheets in Indonesia, selected years, Indonesian Central Bureau of Statistics.

by BULOG from counterpurchase regulations. In September 1985, Indonesia signed a counterpurchase agreement with the PRC providing for the purchase of 53,000 tons of Chinese cotton in exchange for a PRC purchase of Indonesian synthetic fiber. The improvement in PRC/Indonesia relations and trade resulted in the PRC emerging as the leading supplier of soybeans, soybean meal, and cotton to Indonesia in 1985.

Food Crop Demand

Consumption Trends

Indonesia depends heavily on vegetable and cereal sources for calories, protein, and fats. Rice accounts for about half of per capita caloric needs, total cereals about two-thirds, and animal products only 2 percent (table F). Cereals provide about two-thirds of the proteins, but only 11 percent of the fats. Nuts and oils supply half of the fats. Beyond cereals, other major sources of calories are pulses, nuts and oilseeds, oils and fats, and sugar. Other important sources of protein are pulses, nuts and oilseeds, and fish. The remaining food groups are important because they provide necessary vitamins and minerals and add variety to the diet. Per capita

consumption of animal and dairy products is very low because few Indonesians can afford them.

All domestically produced or imported soybeans are consumed as soybean curd products, i.e. tempe and tofu. These are eaten as meat supplements or replacements. Demand for soybeans for human food, as a cheaper source of protein than meat and poultry, is increasing rapidly even though soybeans are sold to tofu and tempe processors at relatively high prices.

In 1978, urban consumers spent 56 percent of their average budget for food, and rural consumers 70 percent. These high percentages were sharply below 1970 levels, reflecting increasing per capita real incomes. A later survey would probably indicate a continuation of this trend, at least through 1982.

The country's overall domestic food supply is now more than sufficient to meet average nutrition requirements of the total population, but distribution continues to be a problem. The poorest half of the population probably receives fewer calories and less protein than needed, with intake levels of the very poorest linked to the availability and price of the cheaper nonrice staples. Food balance sheet data for 1980 show consumption of 2,570 calories per capita, 23 percent above 1970 and 35 percent more than the recommended FAO/WHO minimum (table F).

USDA Market Development Programs

Several major USDA cooperator organizations focusing on Southeast Asian countries maintain offices in the FAS Agricultural Trade Office that was established in Singapore in 1980. Cooperators officed there are the American Soybean Association, the Poultry and Egg Export Council, U.S. Wheat Associates, Inc., U.S. Meat Export Federation, and National Renderers Association. The Agricultural Trade Office also provides temporary working space and facilities for visiting cooperators. The U.S. Feed Grains Council and Cotton Council International operate throughout Southeast Asia from their offices in Hong Kong. Cooperator activities in Indonesia are coordinated and supported by FAS personnel at the U.S. Embassy in Jakarta.

Current and Projected Demand

o Demand Projections Methodology

The following analyses focus on rice, corn, wheat, soybeans, soybean meal, and cotton. Except for wheat and soybean meal, these commodities are produced in Indonesia and compete there with major U.S. agricultural exports. Projecting 1990 production, consumption, and trade in these commodities was the prime objective of this study.

General Approach---The projections in this study were made considering the latest available data and information, including commodity situation reports from the U.S. Agricultural Counselor in Jakarta and trip reports from personnel in USDA's Foreign Agriculture Service. Moreover, the anticipated effects of further gains in real per capita incomes of Indonesians, and export incentives contained in the 1985 U.S. Food Security Act.

The volume, quality and currentness of analyzed background data and information varied greatly by commodity. Quality of the data is thought to be least reliable for corn, soybeans, and cotton. Trade data are generally considered more reliable than production and utilization data due to the availability of official trade statistics and BULOG's sanctioned trade role. Production data for rice is considered more reliable than for other commodities because of the high priority given to rice vis-a-vis other commodities.

o General Macroeconomic Assumptions

1. Average annual GDP real growth will rise 3.0 percent in 1984-90, down from 5.7 percent in Repelita III (April 1979-March 1984), 7.2 percent in Repelita II, and 8.5 percent in Repelita I.
2. Population growth will average 2.3 percent annually through 1990.
3. Revenue from oil and natural gas exports through 1990 in real terms, will be sharply lower than in 1979-85.

o Agricultural Sector Assumptions

1. Average annual real economic growth in the agricultural sector will decline to about 3.0 percent in 1986-90 from 3.5 percent in Repelita III and 4.6 percent in Repelita I.
2. The thrust for agricultural development through 1990 will be on food production, greater export earnings from agricultural items, and creation of jobs.
3. Agricultural production incentive programs will increasingly focus on secondary food crops rather than on rice, although rice self-sufficiency will continue through 1990 when domestic supply matches demand.
4. Relative average price ratios among rice and secondary food crops in 1986-90 will be as in 1984, rather than as in 1985 when producer and consumer prices for rice were abnormally low.
5. Fertilizer subsidies will be retained through 1990, although the Government may reduce them because of increasing budget stringency.
6. Food subsidies, eliminated effective April 1984, will not be restored during the projection period.
7. Hybrid corn plantings by farmers will increase during the late 1980's with a corresponding impact on yield and production.
8. Domestic soybean production in 1990 will still fall short of food demand. Soybean imports will have ceased as imported beans are crushed in Indonesia's first soybean crushing plant, currently under construction.

Uncertainties overhang any attempt to project 1990 Indonesian supply, demand, and trade of commodities. The recent dramatic plunge in petroleum prices has lowered Government income sharply and will force changes in macroeconomic and agricultural policies. Because the present crisis may persist through the 1980's, discretionary

consumer purchasing power is likely to be constrained if not actually reduced. Growth in agricultural development and output, including that from the food crops sector, may be well below that realized in the late 1970's and early 1980's.

Can the Indonesian Government afford to continue subsidizing rice production, despite current self-sufficiency, and increasingly subsidize output of secondary food crops, while an increasing number of its citizens think lower subsidies are necessary? On the other hand, can further producer incentives for rice be ignored given rice's political importance, its overwhelming dominance in the national diet, and leading contribution to GNP? Given the present dramatic shortfall in Government revenue, will the Government maintain the political will to continue to increase production of secondary food crops as planned before the current economic crisis occurred? Is Indonesia's conservative fiscal and economic approach consistent with Repelita IV agricultural growth and development objectives? Which agricultural policies will be changed, and what will be the magnitudes and effects of the changes? The answers to these questions can't be determined now but could have major effects on the production, consumption, and trade projected for 1990.

o Rice

Rice consumption and domestic output will almost certainly continue to trend higher through 1990 (table G). Forecast per capita rice use of 162 kilograms in 1990 will be only 7 percent higher than in 1981-83. Yet per capita use in 1981-83 averaged 31 percent more than a decade earlier. Although many relatively impoverished Indonesians want to consume more rice, growth in per capita consumption appears to be slowing. In several other Asian countries, per capita rice use has topped out and declined. Even if Indonesia's per capita rice use declines unexpectedly, its national diet will almost certainly continue to be mainly rice-based well beyond 1990, with relatively low intake of animal products.

Recent production sufficiency, which resulted in subsidized exports of 415,000 tons in 1985, is expected to continue through 1990 when domestic supply equals use. Although

Table G--Indonesia: Production, consumption, and imports of milled rice

Item	Average		1984	1985	Projected 1990
	1971-73	1981-83			
1,000 tons					
Production	13,838	20,043	25,933	26,537	30,200
Consumption	14,794	23,740	25,194	26,238	30,200
Imports	972	682	387	40	0
Exports	0	21	0	415	0
Kilograms					
Per capita consumption	115	151	153	156	162
Percent					
U.S. share of imports	23	7	14	1/	1/

1/ No imports from U.S.

SOURCE: Indonesian Central Bureau of Statistics, BULOG, and USDA.

domestic rice sufficiency remains dependent on good climate and disease control, Indonesia made remarkable progress in eliminating its output deficit since the late 1960's when the package of high yielding varieties, appropriate technology, and production credit was extended to receptive growers. As recently as 1977-80, Indonesia's rice imports averaged 1.9 million tons annually.

As one of several countries that has supplied food aid to Indonesia, the United States since 1954 has contributed \$1.66 billion of P.L.-480 Title I agricultural commodities, of which 56 percent was rice. The largest P.L. 480 shipment--381,000 metric tons--was in fiscal 1978. The last shipment, 64,570 tons for \$18.4 million, was in fiscal 1984. Subsequently, Indonesia's self-sufficiency in rice was recognized and U.S. aid was switched to wheat exclusively. Before achieving domestic rice sufficiency, BULOG imported rice from many countries, giving preference to Asian rice, particularly that from Thailand. The United States can realistically expect to remain only a concessional aid supplier or a residual commercial source when world supplies are short.

o Corn

Corn, like cassava, is considered an inferior food, consumed as a matter of economic necessity and almost exclusively in rural areas. About 77 percent of corn use is for food while the remainder is for seed and animal feeds for the expanding livestock and

Table H--Indonesia: Production, consumption, and trade of corn

Item	Average		1984	1985	Projected 1990
	1971-73	1981-83			
1,000 tons					
Production	2,562	3,912	5,288	4,550	5,800
Food use	2,128	3,311	4,187	3,696	4,420
Feed, seed, waste use	240	639	1,000	1,100	1,480
Imports	2	78	59	49	100
Exports	195	7	160	3	0
Kilograms					
Per capita food consumption	17	25	25	22	24
Percent					
U.S. share of imports	0	10	1/	1/	1/

1/ No imports from U.S.

SOURCE: Indonesian Central Bureau of Statistics, BULOG, and USDA.

poultry sector (table H). Per capita food use of corn increased substantially in the rice-deficit seventies, but remained relatively constant in the early eighties, despite a decline in 1985 because of a sharp drop in harvested area resulting partly from plentiful supplies of low-priced rice.

Increased Government emphasis on corn production through higher inputs usage and expanded area accounts for the projected output of 5.8 million tons in 1990. Government interest in expanding corn output comes at a time when farmers are already beginning to shift to higher yielding, downy mildew-resistant corn varieties. For 1986, the producer floor price for corn remains unchanged from 1985 at Rp110 (U.S.\$1.10) per kilogram, constituting a substantial subsidy to enhance domestic output.

Indonesia has rarely imported corn from the United States (even under P.L. 480 Title I) and never in large volume. In recent years, Indonesia has been both a net importer and net exporter. The projected scenario for 1990 would have the country importing 100,000 tons of corn, which Thailand, the preferred supplier, would likely fill.

Thailand has been Indonesia's largest supplier of corn in most years. U.S. corn supplies only a small portion of Indonesia's import needs, despite sometimes appearing to be (not in the last couple of years) very price

competitive with Thai corn. For instance, in the summer of 1982, an estimated landed cost of \$155-160/ton for U.S. #2 corn compared with \$170-175 for Thai corn. Indonesia opted for Thai corn mainly because it could be delivered earlier in bagged form, without extra charges for bagging. Trading decisions involving Indonesia frequently are based at least partly on noneconomic factors with importance attached to continuing relationships that have worked well in the past. The U.S. Feed Grains Council is withdrawing from market development activities in Indonesia, recognizing the extreme difficulty in penetrating what in 1990 is expected to still be a very small import market.

o Wheat

Domestic use of wheat is totally dependent on BULOG imports because Indonesia produces no wheat. All wheat imported is for human consumption and is milled into flour. In the seventies, when world wheat prices were high, the Government instituted a price subsidy for wheat flour but eventually phased it out over a 3-year period ending in March 1984.

After a decade of steady growth, wheat imports fell for the first time in 1981. Per capita use peaked in 1981-83 (table I). Wheat imports declined also in 1984 and apparently bottomed out in 1985. Recovery to about 1.5

Table I--Indonesia: Production, consumption, and imports of wheat

Item	Average		1984	1985	Projected 1990
	1971-73	1981-83			
1,000 tons					
Production	0	0	0	0	0
Food use	643	1,514	1,397	1,370	1,825
Feed use	0	0	0	0	0
Imports	617	1,530	1,436	1,317	1,825
Exports	0	0	0	0	0
Kilograms					
Per capita food use	5	10	9	8	9
Percent					
U.S. share of imports	52	58	60	30	45

SOURCE: Indonesian Central Bureau of Statistics, BULOG, and USDA.

million tons is anticipated in 1986. This growth is forecast to continue through 1990 when projected imports of 1.7 million tons would be 31 percent above the 1985 low, although only 13 percent more than in 1981-83.

Flour consumption slumped in 1984 and 1985 due to increasing spreads between rice and flour prices, favoring rice. BULOG's flour price to wholesalers and distributors was increased several times during 1984 and early 1985 until stabilizing at Rp432 (U.S.\$.38 per kilogram) from April into 1986.

Indonesia receives a small proportion of its wheat under concessional terms. Australia, Canada, and the Netherlands were among countries providing grant wheat in recent years. Under the P.L. 480 Title I concessional aid program, since 1954 the United States has provided \$366 million of wheat and wheat flour, exclusively wheat since the early seventies after construction of modern milling facilities that have recently been expanded to an annual capacity of 3.2 million tons. For fiscal 1986, \$30 million in wheat, or roughly 180,000 tons, are allocated under P.L. 480. The Indonesians usually purchase Dark Northern Spring with P.L. 480 funds.

In the seventies and early eighties, the annual U.S. share of Indonesia's wheat import market averaged 50-60 percent. Other suppliers have been Australia, a major competitor, and France, Canada, and Argentina, which until recently were only minor participants. BULOG now purchases wheat largely on the basis of price competition, although quality is an important though lesser concern. The U.S. share of Indonesia's wheat market fell from 60 percent in 1984 to 30 percent in 1985 while Australia's share increased slightly to 37 percent. Canada gained a major foothold with 21 percent and Argentina supplied 12 percent.

Sharply lower wheat export prices are anticipated in 1990, based on the U.S. Food Security Act of 1985, which allows U.S. wheat to compete based on price as well as quality. Even at sharply lower forecast prices, Australia would continue to be the major competitor in Indonesia with Canada, Argentina, and the EC (European Community) also competing. This analysis assumes that

other wheat suppliers will maintain active competition against U.S. wheat at the lower prices forecast through 1990.

o Soybeans

The volume of soybeans consumed in Indonesia nearly doubled in the decade that ended in 1983 and moved still higher in 1984 and 1985 (table J). Projected food use in 1990 is 19 percent above 1985 and 29 percent above 1981-83. Per capita use, at 6 kilograms, would remain stable to 1990.

Continued success in increasing domestic soybean output is anticipated, although at a far slower rate than targeted. Increased output will reduce 1990 soybean imports (assuming no domestic soybean crushing) 40 percent from the 1984 high of 401,000 tons. However, if the 300,000-ton annual capacity soybean crushing plant now under construction is operating in 1990 as anticipated, soybean imports may jump to 540,000 tons, but result in correspondingly lower imports of soybean meal.

Total soybean imports in 1985 were sharply below a year earlier, reflecting the Government's desire to conserve foreign exchange, emphasis on expanding domestic soybean production, and generally ample

Table J—Indonesia: Production, consumption, and imports of soybeans

Item	Average		1984	1985	Projected	
	1971-73	1981-83			1990 1/	1990 2/
1,000 tons						
Production	525	602	625	743	1,002	1,002
Food use	457	908	961	984	1,172	1,172
Feed, seed, waste use	54	58	75	74	88	328
Crush	0	0	0	0	0	300
Imports	0	371	401	317	240	540
Exports	13	0	0	0	0	0
Kilograms						
Per capita food consumption	4	6	6	6	6	6
Percent						
U.S. share of imports	3/	96	82	16	65	65

1/ Assumes no domestic soybean crushing facilities completed. 2/ Assumes 300,000 metric tons annual capacity soybean crushing plant fully operational and producing 240,000 tons of soybean meal. 3/ No soybean imports from any source.

SOURCE: Indonesian Central Bureau of Statistics, BULOG, and USDA.

supplies of low-priced rice and other secondary food crops. The People's Republic of China replaced the United States as Indonesia's major soybean supplier in 1985, offering lower prices, delivery in bags, and deliveries to small ports.

The U.S. share of Indonesia's soybean imports, which was a relatively high 82 percent in 1984, plunged to only 16 percent in 1985, and is forecast to recover to 65 percent by 1990. U.S. beans had dominated this market until 1984 when low-priced Chinese (PRC) beans gained an 18-percent foothold with U.S. supplies taking the remainder. By 1990, the PRC's exportable supplies for Southeast Asia may decline sharply as it continues under trade agreements to supply the Soviet Union (about 500,000 tons) and Japan with a combined total of about 800,000 tons annually, which will become an increasingly larger share of total soybean exports. Although the PRC's domestic soybean output is increasing, so are its own soybean needs for food and feed milling.

Competition in 1990 for U.S. soybeans in Indonesia will come mainly from Brazil and, to a much lesser extent, Argentina. Although Brazil's production costs are thought to be comparatively low, and despite its ample land for further expansion, U.S. beans will continue to outsell Brazilian and Argentinian beans in Indonesia, as price competition is enhanced under the 1985 farm bill. Argentina appears likely to remain a small market participant.

Soybean Meal Demand

Indonesian per capita consumption of protein from animal sources (excluding fish) is only about 1 kilogram per year, compared to the Government target of 3.6 kilograms annually by 1990. To support higher livestock production, the Government is encouraging improved livestock feeding practices, including use of compound formula feeds having soybean meal as a prime ingredient. Another growing use of soymeal is in aquaculture (fish or prawn farming, usually in ponds). Currently, soybean meal is all imported, although by 1990 imports could almost cease if the crushing plant now being constructed is fully operational (table K). Projected feed use of 240,000 tons in 1990 (33 percent above 1985) is conservative, given recent much higher growth. Yet, severe

Table K--Indonesia: Production, consumption, and imports of soybean meal

Item	Average		1984	1985	Projected	
	1971-73	1981-83			1990 1/	1990 2/
1,000 tons						
Production	0	0	0	0	0	240
Feed use	0	138	195	206	240	240
Imports	0	138	206	180	240	0
Exports	0	0	0	0	0	0
Percent						
U.S. share of imports	3/	25	32	11	40	3/

1/ Assumes no domestic soybean crushing facilities completed. 2/ Assumes 300,000 metric tons annual capacity soybean crushing plant fully operational. 3/ No soybean imports from any source.

SOURCE: Indonesian Central Bureau of Statistics, BULOG, and USDA.

Government austerity and declining consumer purchasing power could slow demand growth for livestock products. Soybean meal imports declined in 1985 due to Government actions to conserve foreign exchange.

The U.S. share of Indonesia's soymeal imports declined sharply to 11 percent in 1985 but is forecast to improve to 40 percent in 1990, providing domestic soybean crushing facilities are not yet operational. By underpricing U.S. meal, the PRC supplied virtually all of Indonesia's needs last year. However, present price relationships between beans, meal, and oil favor the export of beans rather than meal by the PRC. Consequently, since February, PRC meal exports to Indonesia have ceased, at least temporarily. Following the PRC withdrawal from Indonesia's soymeal market, the United States is again the dominant supplier.

By 1990, PRC competition in Indonesia's soymeal import market is expected to be slight if any. Major competition for market share will come from Argentina, whose policies are designed to favor exports of soymeal rather than soybeans, and from Brazil, the traditional leading supplier.

Cotton Demand

Until recently, Indonesia's textile industry had undergone a period of impressive growth. Growth in textile exports has been slowed by both importing country quotas and stiffer competition from other textile exporters. The

Table L--Indonesia: Production, consumption, and imports of cotton

Item	Average				Projected 1990/91
	1971/72- 1973/74	1981/82- 1983/84	1984/ 85	1985/ 86	
	1,000 tons				
Production	2	5	8	13	32
Consumption	48	117	125	120	144
Imports	55	115	117	115	112
	Percent				
U.S. share of imports	95	55	48	21	40

SOURCE: Indonesian Central Bureau of Statistics, and USDA.

Government seeks to increase the quality of domestically produced textiles and stimulate domestic sales as well as boost exports. For the end of Repelita IV in March 1989, the Government set an ambitious capacity target of 3.5 million spindles, up from the current 2.5-3.0 million. Textile exports are an important source of foreign exchange and domestic employment. Indonesia's demand for raw cotton depends on (1) the output of cotton textiles by its export-oriented textile industry, (2) import barriers against cotton textiles in Indonesia's major markets such as the United States and EC, and (3) Indonesia's cotton textile export competitiveness.

In 1985/86 (August-July), Indonesia's textile industry consumed an estimated 120,000 tons of cotton, only slightly more than averaged in 1981/82-1983/84 (table L). Imports were unchanged from the earlier period at 115,000 tons. However, it is clear that the 1970's was a period of dynamic growth in cotton use, virtually all of which was imported.

The late 1980's could bring renewed growth in domestic cotton demand and some recovery in the U.S. market share. The U.S. share in Indonesia's cotton market was still 48 percent in 1984/85, although that was only half of the early 1970's average. The PRC emerged as a major competitor in 1984/85 and is increasing its substantial presence in 1985/86 as the U.S. share declines to 21 percent. This occurred despite reports that PRC cotton was of low quality and its system

of grading and trading was not well developed or understood by the Indonesian textile industry.

Domestic cotton production is projected to grow 20 percent a year during the late 1980's. Cotton demand may rise 4 percent annually, which implies good growth in cotton textile exports. Indonesia's textile export fate is closely tied to the outcome of upcoming talks about a new Multi-Fiber Arrangement (MFA), the international agreement that allows industrialized nations to limit textile shipments from developing countries whose low wage rates give them an advantage in textile and apparel sales.

By 1990/91, Pakistan may be the major competitor for U.S. cotton in Indonesia. Pakistan's average cotton production cost is known to be relatively low. The U.S. Food Security Act of 1985 sharply increases the U.S. ability to compete on a price basis and, given surplus world cotton supplies, extreme price competition seems likely for the foreseeable future. Although the PRC is committed to fill certain long-term cotton export agreements with a few other nations, it will likely shift increasingly to exporting cotton textiles.

Conclusions

1. Severe revenue shortfalls resulting from sharply lower petroleum export prices will dampen general economic and agricultural growth and development in the late 1980's. Further policy adjustments to at least partially offset these losses have not been determined, but may limit overall growth in consumption of rice and secondary food crops.
2. Agricultural growth, especially of rice and secondary food crops, will remain of prime importance to the Indonesian Government. An adequate supply of rice at affordable prices is of utmost concern in maintaining the long period of political stability under President Suharto.
3. Current efforts to tilt producer incentive policies to secondary food crops such as corn and soybeans, and away from rice, because of present rice sufficiency and related BULOG budgetary and price

support defense problems, would be quickly reversed in case of a major rice crop failure during the late eighties.

4. Government efforts to successfully expand the production of corn and soybeans, will likely prove much more difficult than for rice. Rice self-sufficiency was first achieved in good weather years in the early 1980's, although the high-yielding technology was introduced in the late 1960's. Rice production surpluses have been small and continuing self-sufficiency may prove elusive unless strong producer incentives are maintained. Would-be producers of corn and soybeans generally prefer to multicrop rice if soil moisture or irrigation water appears ample. Also, quality seed supplies for secondary crops are limited and the extension program for these crops has yet to prove widely effective.
5. Further growth in population and real per capita income in the late 1980's will increase overall demand for food and fiber. Indonesia's low per capita income and high incidence of poverty will result in a continued high relative concentration on bulk agricultural imports, such as wheat, soybeans, cotton, and tobacco.
6. Regulations issued on December 27, 1982, have sharply reduced imports of "nonessential" items, mainly fresh fruits and vegetables, liquors and wines, and frozen and processed meats. These regulations have resulted in reduced imports of such items from the United States and will likely be applied throughout the 1980's.
7. An estimated 84 percent of the total value of U.S. agricultural exports to Indonesia in 1990 will result from purchases of wheat, soybeans, and cotton (table M). This assumes that the U.S. Food Security Act of 1985 will enhance substantially the price competitiveness of U.S. grains, soybeans, and cotton. In 1986-90, assumed export unit values will

Table M—U.S. agricultural exports to Indonesia, quantity and value, 1984, 1985, and 1990 projected

Commodity	Quantity			Value		
	1984	1985	1990	1984	1985	1990
	1,000 M.T's			\$ Million		
Rice	61	3	0	17	0	0
Wheat	817	400	825	129	59	94
Corn	0	0	0	0	0	0
Soybeans	255	52	350	71	11	73
Soybean meal	80	0	0	17	0	0
Cotton	70	43	45	119	68	72
All other	NA	NA	NA	42	32	43
Total	NA	NA	NA	395	170	282

SOURCE: U.S. Departments of Agriculture and Commerce.

8. Projected 1990 U.S. export volumes and values, compared with 1985 lows, will increase sharply for wheat and soybeans. Cotton volume may rise about one-third although its value may gain only 5-7 percent. Although U.S. wheat export volume may more than double from 1985, export value may still be 35-45 percent below the 1983 record. Soybean export receipts in 1990, though above 1984 earnings, may be 20-30 percent below the 1982 highs. Similarly for cotton, 1990 sales may remain about 35-45 percent below 1984's record. If receipts for these commodities are deflated to eliminate price inflation, a much more discouraging picture emerges.
9. Price competitiveness is extremely important if U.S. bulk agricultural commodities are to continue accounting for a high proportion of U.S. sales to Indonesia. However, various sources in Indonesia have indicated that quality considerations are important also. Stricter marketing standards and enforcement would buttress our quality image in Indonesia and other countries importing U.S. commodities. move sharply lower from 1984 and 1985 levels as exporters compete to reduce excess stocks and retain or expand market shares in Indonesia.

LIVESTOCK DEVELOPMENT IN THAILAND

Sara J. Schwartz
Agricultural Economist
Economic Research Service

Abstract: Thailand's livestock industry has developed rapidly since 1975. The poultry industry produces 435,000 tons of meat and Thailand has become the world's sixth largest poultry exporter. The hog sector is in transition, modernizing rapidly with great export potential for pork. The commercial feed industry has kept pace with the livestock sector's growth. Thailand produces enough low-cost energy feed to supply its own livestock sector without affecting the export availability of corn, sorghum, or tapioca products. Coarse grain production could double within 5 years if hybrid seeds and modern inputs were commonly used.

Keywords: Livestock, poultry, hogs, feed, corn, coarse grains, agriculture, Thailand

Thailand's livestock industry has developed rapidly since 1975. The poultry industry now produces 435,000 tons of meat and Thailand has become the world's sixth largest poultry exporter. The hog sector is in transition, modernizing rapidly with great potential to expand production and improve quality. Thailand could begin exporting processed pork products within the next 5 years.

Vertically integrated feed companies have been the driving force behind the modernization process. They have provided the technology, equipment and breeding stock to begin and expand the poultry industry. While their influence is smaller in the less concentrated hog sector, they are at the forefront of processing and marketing. Feed companies are also involved in providing modern inputs to coarse grain producers to ensure adequate domestic feed supplies.

In 1986, Thailand will produce enough feed grains to support its burgeoning livestock industry and still export 3.5 million tons of corn, 335,000 tons of sorghum, 3.9 million tons of rice, and 5.3 million tons of tapioca products (a major nongrain feed). The growth of the livestock industry will demand increasing domestic resources. However, coarse grain production could double with the use of hybrid seeds, fertilizer, and herbicides, thereby providing adequate supplies for domestic use and coarse grain markets abroad.

Domestic Consumption and Export Demand Spur Industry's Growth

Thailand's poultry and hog industries have developed in response to growing domestic and export demand. Domestic demand grew with rising incomes, increased urbanization, and a growing population. Low-cost feed ingredients and efficient production allowed the real price of chicken and pork to fall 26.9 percent and 30.6 percent, respectively, between 1974 and 1985.

While Thailand's staple food is still rice, and the most important protein source is fish, meat consumption, except for beef, is rising (table N). Per capita consumption of chicken rose from 3.3 kg in 1975 to 7.1 kg in 1985. Pork consumption has increased from 7.2 kg per person in 1975 to an estimated 9.0 kg in 1985. In contrast, beef consumption has remained about the same since 1975, an average of 4.7 kg per person. Although demand for fish remains relatively stagnant, fish supplies have dwindled, resulting in a real price increase of 22.5 percent between 1974 and 1984. Some data show that fish consumption has remained stable at an average of 15 kg per person over the last 10 years. However, other estimates reveal that consumption may have dropped from 18 kg per capita in 1978 to 12 kg in 1983. At the same time, per capita rice consumption has fallen by 1 percent each year as people have used higher incomes to buy more diverse food, including protein sources.

Table N--Thailand: Meat production and trade

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986(F)
1,000 tons										
Production										
Fish	2,190.0	2,099.0	1,946.0	1,793.0	1,989.0	2,120.0	2,255.0	2,249.0	NA	NA
Pork	417.3	516.9	567.8	507.4	496.5	500.9	484.3	385.0	462.0	438.9
Poultry	198.8	223.1	249.5	356.5	396.7	463.7	402.1	444.5	382.7	435.1
Eggs (1,000 doz.)	207.9	191.3	245.0	250.0	265.0	288.0	320.0	350.0	350.0	370.0
Beef	222.0	219.0	209.1	224.1	216.1	230.1	254.1	243.1	247.9	244.8
Imports										
Beef	0	0	0.09	0.06	0.08	0.08	0.10	0.14	0.13	NA
Fish	0.33	1.29	2.23	9.28	11.27	14.30	31.88	96.54	NA	NA
Exports										
Poultry	4.25	9.29	14.16	18.50	26.77	33.22	22.90	34.22	38.00	55.00
Eggs (1,000 doz.)	4.66	2.47	1.30	0.71	2.09	0.99	7.78	7.78	7.30	NA
Fish	40.22	48.19	45.98	41.34	56.86	53.22	53.69	75.25	NA	NA

SOURCE: Data are derived from Thai government, USDA, FAO and private estimates, and subject to wide variance.

During the last 10 years, poultry exports have grown in response to growing demand, particularly from Japan. In 1975, Thailand exported 135 tons of frozen boneless chicken to Japan; by 1985 Thailand held 35 percent of the Japanese market, exporting over 33,000 tons of boneless meat to Japan and another 5,000 tons to other countries in Asia and the Middle East. Thailand maintains its competitive edge despite poultry production costs that are 39 percent higher than those of U.S. growers because labor costs to debone the meat are significantly lower and proximity to Japan brings down transportation costs.

Poultry Sector Approaches U.S. Efficiency

The poultry sector was the first to modernize. Broiler production grew from 36.4 million birds in 1975 to 280 million in 1986. In 1975, broilers represented 20 percent of all chickens produced. Now they represent over 90 percent. Efficient management, economies of scale, and modern technology have allowed production costs to decline and performance to approach that of the United States (table O).

Over 90 percent of commercial broiler producers work under some sort contractual arrangement with a feed company. The most popular is a contract that combines a salary to

Table O--Thailand: Broiler industry performance measures

	1985	
	United States	Thailand
Market age	7 weeks	7 weeks
Average market weight (dressed)	1.4 kg	1.4 kg
Feed conversion ratio	2.0	2.0
Mortality	3-5 percent	3-5 percent
Average cost of production/bird	\$0.95	\$1.32

SOURCE: USDA and private industry estimates.

the grower based on the number of broilers produced and a quality bonus relating to broiler prices, the feed conversion ratio, and other efficiency indices. (2)*

The industry structure is oligopolistic, with one company, Charoen Pokphand (CP), controlling 45 percent of the chicken supply, 45-50 percent of the feed supply, and up to 50 percent of the other stages of production and marketing. (1)

The Thai Government has allowed the poultry industry to expand without interference. Government participation is

*Numbers in parentheses refer to literature cited at the end of this article.

limited to slaughterhouse and meat inspections and investment privileges granted to firms exporting broilers. These privileges include import duty exemptions on imported machines and raw materials, exemption from paying export taxes on processed products and reductions in income taxes paid on export earnings. These privileges and aggressive market promotion by Government trade teams have allowed Thai boneless chicken to become increasingly competitive in the Japanese market and eased its entrance into other Asian (Singapore and Hong Kong) and Middle Eastern markets.

Hog Production Hindered by Government Regulations

Hog production nearly doubled between 1967 and 1980. Falling real prices, rising incomes, and a taste preference for fresh pork made this meat the most important protein source after fish. However, the Government regulates transportation, slaughter, and marketing of hogs. These regulations have so inhibited production and trade that while farms have been modernizing at a rapid rate, the number of hogs produced has remained fairly constant since 1980.

The 1959 Animal Slaughtering and Meat Sale Control Act restricts slaughterhouse ownership to local governments. The facilities can be leased to a private firm by special permission but property rights are retained by the Government. The animals must be inspected, a permit issued, and taxes (equivalent to 2 percent of the selling price) levied before the animals can be slaughtered.

However, since investors have no property rights, there are no incentives to modernize or maintain the slaughter facilities. The inspections are often carried out by unqualified officials. To avoid inspection and taxes, up to 60 percent of the hogs are illegally slaughtered, usually under unhygienic conditions.

Originally, the laws prohibited the transport of carcasses between provinces. Since 50 percent of the marketable hogs are consumed in Bangkok, this meant that live hogs had to be shipped long distances to the city, arriving bruised and stressed and producing low-quality meat. In 1979, the law was changed to allow wholesalers to slaughter

hogs in provinces close to Bangkok and transport the carcasses to the city.

This change provided an incentive for large, modern breeding and fattening operations to develop in those provinces. Prior to 1979, most hogs were raised on small-scale rice farms to supplement income. These "backyard" operations consisted of two to three hogs fed on farm wastes for 10 months until they reached a market weight of 120–130 kg. (1)

The situation is radically different today. Only 30 percent of the hogs are now raised by noncommercial producers, mostly in the more remote provinces. Much of this change is the result of recent swings in the hog cycle. In 1980, hog prices were low and many small and medium producers cut back herds and looked for ways to improve efficiency. In 1983, prices rose and hog producers expanded their operations, employing new technology, commercial feed ingredients, and efficient management tools. Pharmaceutical companies accelerated the process by aggressively marketing premixes (additives, including vitamins, trace elements, and drugs) together with explicit instructions on how to mix feed rations using available grains. The feed companies quickly responded by marketing the necessary concentrates (feed containing high-protein components) that could not be produced on farms. As a result, farmers were able to raise hogs to market weight (110 kg) and close to Western and Japanese standards, within 5 to 6 months, compared with 10 months using traditional methods. When prices fell to less than half the 1983 level toward the end of 1984, some growers (especially those raising fewer than 100 pigs) could not compete with the more efficient producers and were forced to shut down. Seventy percent of all hogs are now raised by commercial producers who supply hogs to all urban areas in the country.

Even though the producers have modernized their operations, production has not expanded since 1980. One reason is that the marketing system has remained the same. Unlike the poultry sector, the feed companies do not control all aspects of production and marketing. While some attempt at vertical integration has taken place, the hog industry is characterized by many independent producers selling their hogs to local agents of hog and carcass wholesalers.

Some feed companies (CP in particular) do lease and operate hog slaughtering and processing facilities. Bangkok processors are responding to consumer demand for lean meat by instituting grading systems and paying higher prices for leaner animals. This in turn provides incentives for growers to breed and finish high-quality animals.

Thailand's live hog and pork exports have been limited due to the country's reputation for inadequate disease control and low-quality meat. Hog exports reached an estimated 73,000 head in 1985, nearly all to Hong Kong, where Thailand became the second largest supplier after China, but capturing only 2.5 percent of the market. Pork exports, primarily to Singapore, Hong Kong, and Vietnam amounted to 49 tons in the first 10 months of 1985.

However, recent changes in regulations may lead to improved export performance. In 1984, the Government allowed private firms to own slaughter facilities if 50 to 70 percent of the products were exported. Since the export market is for lean meat and few byproducts, the high ratio deterred investors. One firm, in a joint venture with a Philippine investor, has received a license and began construction this year. CP has just signed a joint venture agreement with an American firm, Oscar Meyer, to produce processed pork products for domestic and export markets.

There are signs that the modern hog producing and pork processing industries are putting increasing pressure on the Government to change its slaughter policy. New regulations came out in February 1986, stating that firms could own and operate their own slaughter facilities. However, investors still must obtain a license from the Government and firms are waiting to see if any licenses actually will be granted. Even if licenses are obtained, pork prices must improve before it becomes economical to modernize the slaughterhouses. Traditional slaughter costs of \$0.87 per hog compare to \$3.46 per hog using modern technology. Higher domestic consumption and an expanded export market may provide the necessary incentive to revolutionize the pork processing industry and marketing system.

Feed Resources Expand To Meet Livestock Requirements

The commercial feed industry expanded along with the broiler and hog sectors. Production of commercially-mixed feed grew from 100,000 tons in 1970 to 1.6 million tons in 1985. This growth would have been difficult without an abundance of low-cost ingredients.

The primary feed ingredients used in Thailand's broiler and hog industries are rice, rice bran, corn, and oilmeals. In 1985, the livestock sector consumed 1.35 million tons of corn, 1.1 million tons of rice, 1.6 million tons of rice bran, and 475,000 tons of oilmeal.

Table P--Thailand: Grain and oilseed production

	1980	1981	1982	1983	1984	1985	1986(F)
Rice	11,463	11,732	11,139	12,902	12,342	12,705	NA
Rice bran 1/	1,910	1,955	1,856	2,150	2,007	2,118	NA
Corn	3,200	4,350	3,450	3,950	4,350	5,150	4,800
Tapioca prods.	7,080	7,120	7,022	7,483	8,040	5,950	NA
Soybeans	102	100	131	113	179	240	296
Soybean meal	55	47	51	63	100	120	160
Fishmeal	151	189	170	194	208	195	180
Other oilmeals	54	67	56	80	80	90	70

F = Forecast.

1/ Assumes 11 percent of paddy rice is converted into bran.

SOURCE: Thai government, USDA.

Table Q--Thailand: Estimated feed use

	1983	1984	1985	1986 1/
	1,000 tons			
Corn	1,150	1,250	1,350	1,400
Rice 2/	950	1,100	1,100	1,100
Rice bran 3/	1,600	1,700	1,600	1,700
Soybean meal	250	290	320	320
Fish meal	100	120	115	100
Other oilmeals	50	50	40	45
Sorghum	30	35	45	50
Tapioca pellets 4/	0	75	250	0
Total	4,130	4,620	4,720	4,715

1/ Forecast. 2/ Includes broken and glutinous rice.
3/ Includes solvent extracted and regular rice bran.
4/ Commercial feed only.

SOURCE: Foreign Agricultural Service, USDA.

Rice used in both swine and poultry rations is a close nutritional substitute for corn. Fine rice bran, though high in fiber content, is commonly used for fattening hogs, while coarse rice bran is commonly used for ducks and dairy cattle. (1)

Approximately 8.6 percent of paddy rice produced in Thailand is used for animal feed, mostly in the form of broken rice. Another 8 to 11 percent of paddy is removed as bran (6.8 percent as fine bran and 3.2 percent as coarse bran). (1) Thai paddy output is expected to reach 19.25 million tons in 1986, yielding 3.58 million tons of broken rice and byproducts available for animal feed. Domestic rice availability is expected to increase as the rice export markets become more competitive and Thailand's international market share declines. As a result, broken rice and byproducts may be substituted for corn, particularly in hog rations, as the price differentials widen.

While rice byproducts are the preferred energy ingredients for hogs, corn is the preferred primary energy source for chickens because it tends to impart a yellowish color to the meat. Thai corn production has steadily risen from 1.9 million tons in 1970, when the livestock sector consumed 10 percent of that year's output, to 5.1 million in 1986. The livestock sector is expected to absorb about 30 percent of the 1986 outturn; the rest will be exported or kept in stock.

Export demand drives production growth. Japan and Taiwan were Thailand's primary customers in the 1960's and 1970's, taking up to 70 percent of total corn exports. When Japan and Taiwan reduced corn imports from Thailand in 1981 for quality and price reasons, Thailand diversified its markets. The Middle East, Africa, and Southeast Asian countries took increasing quantities of Thai corn. Exports rose from 2.1 million tons in 1980 to 3.1 million in 1985 despite diminishing East Asian imports and growing demand from the domestic livestock sector.

Farmers boosted production by bringing newly cleared land under cultivation and shifting out of substitute crops, such as cotton, cassava, and soybeans. Since most arable land is now under cultivation, production growth depends on farmers' planting decisions. Area planted to corn

depends on the comparable return from alternative crops and total production depends on farmers' ability to increase yields.

Thai corn yields are low by Asian and world standards, about 2.4 tons per hectare. While improved open-pollinated seeds have not increased yields, these seeds are becoming increasingly popular because of their resistance to downy mildew. Hybrid seeds, introduced in 1983, are available but used in small quantities due to their significantly higher price and the need to use fertilizer to achieve a maximum result of 6.25 tons per hectare. Hybrid seeds cultivated with low fertilizer inputs still yield 3.1 tons per hectare compared with 2.3 tons obtained from the improved open-pollinated varieties. However, hybrid varieties are more prone to drought damage and farmers are often unwilling to assume that risk.

Low wholesale prices characterize the 1986 domestic corn market and farmers are unwilling to invest in relatively expensive inputs unless the corn/input price ratio improves.

Most experts agree that wholesale prices will not improve until the export market expands. The export market is expected to remain around 3-3.5 million tons unless Japan and Taiwan begin to import large quantities of Thai corn again. This depends on the ability of Thai farmers, traders, and exporters to improve the quality of the corn and keep prices competitive with U.S. prices.

If demand for Thai corn rose, and wholesale prices increased, Thai farmers could potentially shift land into corn production, apply modern inputs and raise production to 9 to 10 million tons per year, double the current level. If prices remain the same or fall, production may remain constant. In either case, coarse grain supplies will remain more than adequate to supply Thailand's livestock sector now and in the near future.

In addition to corn, Thailand produces sorghum and cassava (a major nongrain feed). These energy feeds are produced primarily for export and are seldom used in the domestic livestock industry because sorghum and cassava prices per unit of energy are rarely low enough to compete with corn and rice.

Protein Meal Supplies Remain Inadequate

Thailand's protein meal production has not kept pace with the country's livestock sector and imports must supplement domestic resources. Soybean and fishmeals are the primary protein sources. Soybean meal dominates the livestock industry while production of fishmeal is lagging and the supply of trash fish in the Gulf of Thailand is dwindling.

In the 1960's, the commercial feed industry took advantage of the abundance of fishmeal to produce concentrates and compound feed, mostly for the hog sector. However, the industry turned increasingly to soybean meal when fishmeal prices began to rise. Fishmeal production rose, but domestic use stayed between 50,000 and 90,000 tons throughout the 1970's and early 1980's. In 1970, the livestock industry absorbed 80 percent of fishmeal production. By 1985, it accounted for only 41 percent because of fishmeal's high price and relatively low quality compared to soybean meal. Increasingly, fishmeal has been produced for export, averaging 110,000 tons per year over the last 4 years. (1)

On the other hand, soybean meal use soared from only 17,800 tons in 1970 to 320,000 tons in 1985. Imports expanded from 1,000 tons to 200,000 over the same time period.

The Government has tried to stimulate domestic soybean and soybean meal production by providing protection from imports and by supporting farm prices. Planted area and soybean production have doubled since 1982. However, yields are low (about 1.3 tons per hectare) and production costs are high. Production is expected to reach 300,000 tons in 1986, but this is still too low to meet domestic requirements.

Processors are also protected by an import quota system that requires importers to buy 3 tons of domestic meal for every 4 tons imported. Since local meal is more costly than imported meal, feed manufacturers' input costs have been rising. Deliveries must also be carefully timed because domestic meal contains no preservatives and cannot be stored for more than 2 months.

Despite import protection and production increases, domestic meal supplies will not meet growing demand in the near future. Feed manufacturers are actively lobbying against import restrictions. Relaxation of the regulations would lower their costs and those of all commercial livestock producers.

Feed Demand Will Grow, But Export Availability Will Remain Stable

In 1986, feed demand is expected to reach 4.72 million tons (4.25 million tons of energy feed and about 465,000 tons of protein meal). The energy feed requirement can be met easily by domestic production. The mix between rice and corn is now uncertain due to falling rice prices. Rice and rice bran will likely be substituted for corn in hog rations. Poultry ration ingredients are expected to remain the same with corn as the primary energy source. Since Thailand cannot produce an adequate supply of protein meal, 200,000 tons of soybean meal may be imported in 1986.

Commercial feed represents about one-third of the total feed (not including roughage) consumed in Thailand, about 1.6 million tons. Most hog raisers mix their own, using commercial protein concentrates in addition to energy feed that is available on-farm. Farmers who raise layers also mix their own feed. Since broilers must be raised according to the exact specifications of the feed companies, growers purchase compound feed.

Chickens and hogs consume 85 percent of all commercial feed. Broilers take 40 to 50 percent, mostly in compound form. Hogs consume 30 to 35 percent of the feed (70 percent in concentrates and 30 percent in compound feed). Layers take 15 to 20 percent (80 percent in concentrates and 20 percent in compound feed).

It is difficult to estimate total feed use by livestock category. Too little is known about the ration mix, particularly for hogs, layers and ducks. It is clear that these sectors have not reached the same level of efficiency as those in the United States and that the ration mix, particularly the use of protein meals, varies widely. As the industry expands and modernizes, protein demand will grow and imports increase.

Conclusions

Over the last 10 years, Thailand has developed its poultry and hog sectors, while maintaining its position as one of the world's leading grain exporters. Thailand's meat consumption is low relative to Western standards. This is expected to change as per capita incomes rise. The export market for boneless chicken has been steadily rising since 1975 and pork exports may soon become a significant source of foreign exchange. As a result, hog and poultry production will continue to expand.

As the industry grows, grain and protein meal consumption will increase. Since export demand in large part drives expansion of production and Thailand's capacity to produce both rice and coarse grain is underutilized,

livestock industry growth should not reduce the export availability of feed grains. Protein meal imports can be expected to increase greatly, especially when hog slaughter restrictions are lifted and the pork export market develops.

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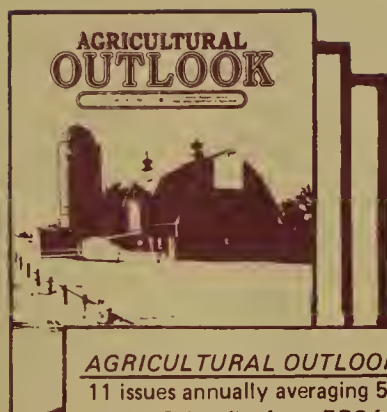
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